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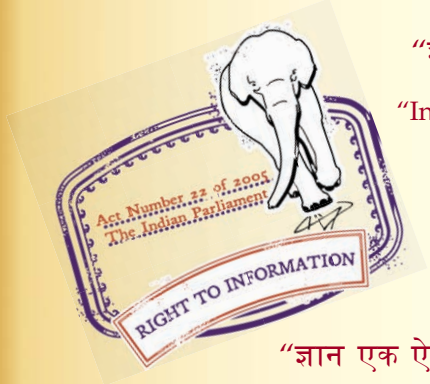

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Indian Standard

CLASSIFICATION OF COMMERCIAL TIMBERS AND THEIR ZONAL DISTRIBUTION

(Revised)

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CLASSIFICATION OF COMMERCIAL TIMBERS AND THEIR ZONAL DISTRIBUTION

(Revised)

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Indian Standard
CLASSIFICATION OF COMMERCIAL TIMBERS AND THEIR ZONAL DISTRIBUTION
(Revised)

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 September 1963, after the draft finalized by the Timber Sectional Committee had been approved by the Building Division Council.

0.2 In the Indian Standard Classification of Commercial Timbers and Their Zonal Distribution (IS: 399-1952), first published in 1952, all values and quantities were specified in fps units. The present revision was undertaken not only for metricizing the standard but also for effecting other important changes. In addition to the average weight per cubic metre (cubic foot) of various species of timber, the range of weight has also been given. Other important additions made are the incorporation of abbreviated symbols for each species of timber and the comparative strength coefficients. Besides, a few more species have been included in the various zones.

0.3 Timber is required for a number of uses, and is procured from different parts of India by the purchasing departments of the Central and State Governments, and by the trade and industry. Sometimes, it does happen that timber is transported over long distances for some specific services when species suitable for the purpose could, with some effort, be secured from nearby sources. The reason for this appears to be that the forest contractors and the timber trade are generally not aware of the properties and uses of the various timbers they purchase from the forest departments. The users are also often unaware of the species that could be used for their particular requirements in place of the costlier timbers they obtain from distant sources. It was, therefore, considered necessary that information should be made available to the purchasing departments, the users, the timber trade and the forest contractors on classification of various important Indian timbers according to their commercial availability in the various zones and their main uses.

0.4 The principal foreign source of supplies of timber to India at present is Nepal, which contributes a very large quantity of sal, sissoo, haldu and other hardwoods to the North and East Zones. Nepalese names are commonly known in these regions and they have, therefore, been included.

0.5 For the purposes of this standard, India has been divided into five zones (*see* Map on p. 85), keeping in view the principal timber-consuming centres and the forest areas which feed them. This, however, does not mean that timbers grown in one zone are not available in the other. For instance, coniferous species, such as fir and spruce, grow in the western Himalayas in the North Zone, but they are in large demand in Calcutta and Bombay for certain uses for which they are ideally suited. Andamans supply large quantities of timber to Calcutta, but a fair amount is also shipped to Madras, where it finds a ready market. The city of Bombay is largely dependent upon supplies from West Coast of Mysore, Kerala, Coastal Madras, and Andhra so that many of the timbers listed in the South Zone are also commercially available there. Such limitations, as pointed out here, are quite natural to a classification of this type covering the whole of India, and it is left to the user to keep them in view when making use of this standard.

0.6 The local names of timbers vary not only according to linguistic regions, which are far too numerous themselves, but even within one linguistic region there are dialectal variations so that it is not an easy task at present to standardize the names both in regard to their pronunciation and their spelling in Roman. The Forest Research Institute and Colleges at Dehra Dun publishes from time to time a list of trade names of important Indian timbers, together with their botanical equivalents, so as to popularize the use of certain names in the timber trade throughout the country. In the preparation of this standard, the usage adopted by the Forest Research Institute and Colleges, Dehra Dun, has been followed, and the classification is alphabetically arranged according to the botanical names revised particularly in the light of the latest nomenclature given in the article 'Name Changes in Common Indian Plants' published in the *Indian Forester*; Vol 84, No. 8; (1958). Trade names are based on the Official List of Trade Names of Indian Timbers, Indian Forest Records, Utilization, Vol 1, No. 7, (1938): Indian Woods, Their Identification, Properties and Uses Vol I, 1958, Vol II, 1963; and Standard Nomenclature of the Exportable Timbers of the

Asia-Pacific Region, Food and Agriculture Organization of the United Nations—Rome 1960. These have been designated as standard trade names. In the case of the species not covered by the above publications, the Committee has itself chosen appropriate standard trade names. These standard names are given in col 2 of Tables I to V (*see* p. 7-53). Abbreviated symbols of these trade names, based mainly on IS : 1150-1957 Abbreviated Symbols for Timber Species, are given in col 3 of Tables I to V and these can be used as identification marks for bulk timber supplied to stock depots from the trade in mixed condition during transit or for storage purposes. Some of the more important local names prevalent within respective zones are given in col 4 of Tables I to V. Most of the local names have been supplied by the Forest Departments concerned. These names have been separately indexed in alphabetical order. As stated above, no effort has been made to indicate the pronunciation. The spellings of a number of local and trade names are not to be considered as final. They are, however, in accordance with well-established usage. It is hoped that in due course the forest departments will try to standardize the local names and that this standard will prove helpful to them for this purpose.

NOTE — For ease of reading, the local names have not been italicized.

0.7 In order to increase the utility of the standard, information on various aspects of timber utilization has been included in Tables I to V. Column 5 of the tables gives a general idea of the availability of the various species within a zone. Columns 6 and 7 give the average weight and the range of weights of air-seasoned timber in kilograms per cubic metre and pounds per cubic foot respectively. A broad classification of the durability of timber is given in col 8. Column 9 records the degree of amenability of a timber to antiseptic treatment under pressure. Column 10 gives an idea of the refractoriness of a timber to air seasoning, based on the extent of cracking and splitting to which a timber is liable under normal practice of air seasoning. Column 11 provides a strength coefficient of timber for the particular use in question based on a coefficient of 100 for teak. This column has been added to enhance the value of the standard by evolving a suitable composite figure for each use. This classification details briefly whatever information is available up-to-date. Lack of adequate data on which to base information under the various columns has been indicated by a dash.

0.7.1 The figures for strength coefficients for various uses for all the timbers have been supplied by the Forest Research Institute and Colleges, Dehra Dun. The method adopted in determining strength coefficients is based on 'Evaluation of Suitability Indices for Comparison of Different Species for Use in Different Industrial and Engineering Fields' appearing in Proceedings of the Symposium on Timber and Allied Products, National Buildings Organization, New Delhi, (1959), and on the figures given in 'Grouping of Indian Timbers and Their Properties, Uses and Suitability'—Indian Forest Records, New Series, Timber Mechanics, Vol I, No. 2, 1954.

0.8 The Sectional Committee responsible for the preparation of this standard has taken into consideration the views of the producers, consumers and technologists and has related the standard to the trade practices followed in the country in this field.

0.9 Metric system has been adopted in India and all quantities and dimensions appearing in this standard have been given in this system. However, weights of timber have also been given in the foot pound units to facilitate a smooth changeover.

0.10 Wherever a reference to any Indian Standard appears in this standard, it shall be taken as a reference to its latest version.

1. SCOPE

1.1 This standard details the zonal distribution of common commercial timbers of India, classified according to their various uses, and gives information on the availability of these timbers and on some of their important properties.

2. USES

2.1 The uses are classified under the following categories:

a) Constructional purposes, including building construction, house-posts, beams, rafters, cart-building, bridges, piles, poles and railway sleepers;

b) Furniture and cabinet making;

c) Light packing cases;

d) Heavy packing cases (for machinery and similar stores);

e) Agricultural implements and tool handles;

f) Turnery articles and toys; and

g) Veneers and plywood.

3. ZONES

3.1 In addition to India, the zones include territories of Sikkim and Bhutan. The territories comprising India, and Sikkim and Bhutan have been divided into five zones as indicated on the Map (*see* p. 85), which comprise roughly the following areas:

I North Zone	Jammu and Kashmir, Punjab, Himachal Pradesh, Delhi, Uttar Pradesh and Rajasthan

II East Zone	Assam, Manipur, Tripura, West Bengal, Bihar, Orissa, Sikkim, Bhutan, Andamans, North East Frontier Agency and Nagaland
III Centre Zone	Madhya Pradesh, Vidharbha areas of Maharashtra State and the north east part of Andhra Pradesh (Godavari delta area)
IV West Zone	Maharashtra State (except Vidharbha areas), Gujarat and north west part of Mysore
V South Zone	Madras, Andhra Pradesh (except the Godavari delta area), Kerala and Mysore (except north west part)

4. CLASSIFICATION

4.0 Tables I, II, III, IV and V list respectively important timbers commercially available in the five zones described under **3** and classified according to their uses given under **2**. Against each species of timber, the availability in that zone, average weight and the range of weight of air-seasoned timber in kg/m^3 and lb/ft^3, durability, treatability, refractoriness to air seasoning and strength coefficient are given.

4.1 Availability — The availability of timbers is categorized under three classes indicated below:

X : Most common, 1 415 m^3 (1 000 tonnes) and more per year

Y : Common, 355 m^3 (250 tonnes) to 1 415 m^3 (1 000 tonnes) per year

Z : Less common, below 355 m^3 (250 tonnes) per year

The figures are largely based on the information supplied by various forest departments. It should be explained here that these figures refer to the quantities that could be made available every year, although due to various difficulties connected with the economic extraction of these species, the actual quantities commercially available at present may be far too small. For instance, Indian oaks, birch, maple, walnut, ash, etc, which occur in hill forests, are so costly and difficult to extract that their exploitation is possible only for such purposes where the cost of extraction is justified by the use in view. Walnut and maple trees are converted in the forest into rifle half-wroughts, which are carried by men, mules and lorries over long distances, as there are no suitable substitutes for them among the timbers available in the plains. With the building of new hill roads and improvement of old ones, it is hoped that these forests will gradually become important sources of timber supply to the country. Then, again, there are certain timbers available from fields, road-sides, canal banks, tea gardens, etc, such as mango, toon, sissoo and silver oak. In compiling the index of availability, all such sources have been taken into consideration. Every care has been taken in arriving at an accurate estimate of availability, but it may be stressed that it is not practicable to obtain adequately detailed and reliable data on the subject.

4.2 Weight Per Cubic Metre (or Cubic Foot) — The figures for the average weight and the range of weights per cubic metre (cft) at 12 percent moisture content for all the timbers have been supplied by the Forest Research Institute and Colleges, Dehra Dun and are based generally on a very large number of samples of each species in a particular zone or from other zones. The range of weights is given below the average weight in parentheses. The density of a timber often varies according to the climatic and soil conditions of the place where a particular species is grown, and even in a single tree may vary from the bottom to the top, and from the centre to the periphery of the bole. The figures given here represent a fair range for the species but, in individual cases, slight deviations on either side are possible.

4.3 Durability — The figures given here are based on the 'graveyard' tests carried out in the open, at the Forest Research Institute and Colleges, Dehra Dun, in which test specimens of size 24 × 2 × 2 in. of heartwood were buried in the ground to half their lengths. The condition of the specimens was examined at frequent intervals and from these observations, their average useful life has been calculated. The timbers are classified for durability according to the average life of these test specimens as follows:

High	: Timbers having average life of 120 months and over
Moderate	: Timbers having average life of less than 120 months but of 60 months or over
Low	: Timbers having average life of less than 60 months

It is necessary to explain here that the actual life of a timber in use depends largely upon the local conditions of soil and climate. The classification made in this standard, therefore, serves merely to give a comparative value of the durability of various timbers when used in exposed situations subject to atmospheric variations, and in contact with the ground.

4.4 Treatability — The classification is based on experiments carried out at the Forest Research Institute and Colleges, Dehra Dun, on the pressure treatments of various timbers with creosote-crude oil mixtures and with water-soluble preservatives, under conditions of treatment which are normally used for these processes. The classification should, therefore, be taken to represent approximately the degree of resistance offered by the heartwood of a species to the penetration of the preservative fluid under working pressure of 10·5 kg/cm^2. In

the case of treatment with creosote-crude oil mixture, the liquid is usually heated to 80° to 90°C; but with aqueous solutions, the treatment is generally done in the cold to avoid precipitation of the chemicals [*see* IS: 401-1961 Code of Practice for Preservation of Timber (*Revised*)].

The treatability of timbers has been classified as follows:

a: Heartwood easily treatable

b: Heartwood treatable, but complete penetration of preservative not always obtained

c: Heartwood only partially treatable

d: Heartwood refractory to treatment

e: Heartwood very refractory to treatment, penetration of preservative being practically nil from side or end

4.5 Refractoriness to Air Seasoning — The timbers are classified, as stated below, under three categories, depending upon their behaviour with respect to cracking and splitting during normal air-seasoning practice suitable for the species concerned:

High refractoriness (indicated 'High' in the tables),

Moderate refractoriness (indicated 'Moderate' in the tables), and

Low refractoriness (indicated 'Low' in the tables).

4.6 Comparative Strength Coefficient — The figures for comparative strength coefficients for various uses for all the timbers have been arrived at by suitably grouping the various important mechanical properties that come into play for any particular use, and giving due weightage to the relative importance of these properties. Variations in basic mechanical properties in the green and dry conditions have been taken into consideration. While using the figures given in this standard, it may be remembered that they serve only as a guide for selection of relatively superior or inferior species, from physical and mechanical aspects. The higher the figure, the more suitable it is for the purpose than the species having a lower figure. It should be remembered that these figures do not serve as design criteria or for deciding dimensions and shapes of the material required for any use. For the present, these figures cover only main uses, such as construction, furniture, packing cases, and tool handles. The comparative strength coefficients have been expressed as a percentage of strength coefficient of teak.

4.7 The following abbreviations have been used in the tables:

And	Andamans
Asm	Assam
Ben	Bengali
Guj	Gujarati
Hin	Hindi
HP	Himachal Pradesh
Kan	Kannada
Kash	Kashmir
Kol	Koli
Mal	Malayalam
Manip	Manipur
Mar	Marathi
MP	Madhya Pradesh
Nep	Nepali
Pun	Punjabi
sp.	Species
Syn.	Synonym
Tam	Tamil
Tel	Telugu

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE

(*Clause* 4)

NOTE — An obelisk (†) against the class of availability of a species indicates that the timber grows in hilly areas, and on account of the difficulty and high cost of extraction, it is not fully exploited at present.
Mark (‡) against a species indicates matchwood.

BOTANICAL NAME	STANDARD TRADE NAME	ABBREVIATED SYMBOL	LOCAL NAMES	AVAILABILITY (*see* 4.1)	AVERAGE WEIGHT AND RANGE OF WEIGHTS AT 12 PERCENT MOISTURE CONTENT (*see* 4.2)		DURABILITY (*see* 4.3)	TREATABILITY (*see* 4.4)	REFRACTORINESS TO AIR SEASONING (*see* 4.5)	COMPARATIVE STRENGTH COEFFICIENT ON THE BASIS OF TEAK AS 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. CONSTRUCTIONAL PURPOSES										
a) Coniferous										
Abies pindrow Royle *Abies spectabilis* Spach. (Syn. *Abies webbiana* Lindl.)	**fir**	FIR	morinda (Hin), pand, rai, tosh (HP), partal (Pun)	X	450 (335-690)	28 (21-43)	Low	d	Low	70
Cedrus deodara Loudon	**deodar**	DEO	deodar (Hin), kelo, kelon (HP), diar (Pun)	X	545 (465-705)	34 (29-44)	High	c	Low	80
Cupressus torulosa Don	**cypress**	CYP	devidiar, leuri (Hin), saro (HP), surai (Kumaon)	Y	515 (430-610)	32 (27-38)	High	c	Low	75
Picea smithiana Boiss. (Syn. *Picea morinda* Link)	**spruce**	SPR	partal, rai (Pun)	X	480 (290-655)	30 (18-41)	Low	d	Low	70
Pinus roxburghii Sargent (Syn. *Pinus longifolia* Roxb.)	**chir**	CHR	chir (Hin), chil (Pun)	X	575 (430-755)	36 (27-47)	Low	b	Low	70
Pinus wallichiana A. B. Jacks. (Syn. *Pinus excelsa* Wall.)	**kail**	KAL	kail (Hin)	X	515 (400-690)	32 (25-43)	Low	c	Low	60
b) Broad Leaved (Non-coniferous)										
Acacia arabica Willd.	**babul**	BAB	babul (Hin), kikar (Pun)	X	785 (720-850)	49 (45-53)	Low	b	Moderate	105
Acacia catechu Willd.	**khair**	KHA	khair (Hin)	X	1 010 (880-1 170)	63 (55-73)	High	—	High	120
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Hin)	X	675 (595-735)	42 (37-46)	Low	a	Moderate	80
Albizzia lebbeck Benth.	**kokko**	KOK	siris (Hin), sarin, shrin (Pun)	Y	640 (480-755)	40 (30-47)	High	c	Moderate	90
Albizzia odoratissima Benth.	**kala-siris**	KSI	kala siris (Hin), kurmuru (Pun)	Y	735 (595-1 010)	46 (37-63)	High	c	Moderate	120
Albizzia procera Benth	**safed-siris**	SSI	safed siris (Hin)	Y	640 (495-835)	40 (31-52)	Moderate	c	Moderate	85
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	bakli, dhaura (Hin), chhal (HP), dhao (Pun)	X	900 (785-995)	56 (49-62)	Low	c	High	95
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	75

IS : 399 - 1963

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Bridelia retusa Spreng.	**kasi**	KAS	gondni, khaja, khaju (Hin), ghaj (HP)	Y	595 (515-675)	37 (32-42)	Moderate	c	Moderate	75
Cassia fistula Linn.	**amaltas**	AMT	amaltas (Hin), kaniar (Pun)	Y	865 (735-1 025)	54 (46-64)	Moderate	—	High	110
Cedrela toona Roxb.	**toon**	TOO	tun (Hin)	X	515 (385-610)	32 (24-38)	Low	c	Moderate	60
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin), tahli (Pun)	X	785 (625-930)	49 (39-58)	Moderate	e	Moderate	85
Diospyros melanoxylon Roxb.	**ebony**	EBO	abnoos (Hin)	Z	835 (655-1 105)	52 (41-69)	Low	—	Moderate	75
Fraxinus sp.	**ash**	ASH	hum (Kash), sum (Pun)	†Z	720 (575-770)	45 (36-48)	Low	—	Moderate	95
Gmelina arborea Linn.	**gamari**	GAM	gamari, gamhar, khamhar (Hin), gumhar, kumhar (Pun)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	55
Grewia tiliæfolia Vahl.	**dhaman**	DHA	phalsa (Pun)	Y	785 (610-880)	49 (38-55)	Moderate	d	Moderate	120
Lagerstræmia parviflora Roxb.	**lendi**	LEN	asidh, dhauri, sida (Hin)	Z	755 (705-800)	47 (44-50)	Low	e	High	95
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	jhingan, moyen (Hin), kembal (Pun)	Y	575 (495-675)	36 (31-42)	Low	e	Moderate	50
Madhuca indica Gmel. [Syn. *Bassia latifolia* Roxb.; *Madhuca latifolia* (Roxb.) Macbride]	**mahua**	MAU	mohwa (Hin)	Z	915 (755-1 040)	57 (47-65)	High	e	High	75
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amb (Pun)	X	690 (610-800)	43 (38-50)	Low	a	Low	75
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam, phaldu (Hin)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	75
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	panan, sandan, tinnas, tinsa (Hin), sannan (Pun)	Y	850 (800-915)	53 (50-57)	High	—	Moderate	80
Quercus floribunda Wall. (Syn. *Quercus dilatata* Lindl.) *Quercus glauca* Thunb. *Quercus incana* Roxb. *Quercus lanuginosa* Don *Quercus semecarpifolia* Smith	**Indian oaks**	IOA	mohru, moru, tilonj (Hin) phariant (Hin), bami (Pun) ban, banj, bhanj (Hin) rianj (Hin) kharsu (Hin)	†X	865 (690-960)	54 (43-60)	Moderate	—	High	110

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Schleichera oleosa Oken. (Syn. *Schleichera trijuga* Willd.)	**kusum**	KUS	kusum (Hin)	Z	1 105 (1 060-1 185)	69 (66-74)	Low	a	High	140
Shorea robusta Gærtn. f.	**sal**	SAL	sakhu, sal (Hin)	X	865 (675-1 040)	54 (42-65)	High	e	High	120
Stereospermum personatum (Hassk.) Chatt. (Syn. *Stereospermum cholonoides* DC.) *Stereospermum suaveolens* DC.	**padri**	PAD	padal, paral (Hin)	Y	720 (560-975)	45 (35-61)	Low	--	Moderate	85
Syzygium cumini Skeels (Syn. *Eugenia jambolana* Lamk.)	**jaman**	JAM	jamun (Hin)	X	785 (705-815)	49 (44-51)	Moderate	c	High	95
Tamarix aphylla (Linn.) Karst. (Syn. *Tamarix articulata* Vahl.)	**frash**	FRA	jhao, jhau (Hin), okan, pharwan (Pun)	Y	675 (—)	42 (—)	--	--	Moderate	--
Terminalia arjuna W & A.	**arjun**	ARJ	arjun (Hin)	Z	815 (640-995)	51 (40-62)	Moderate	b	Moderate	70
Terminalia bellirica Roxb.	**bahera**	BAH	bahera (Hin), bhaira (Pun)	X	815 (675-900)	51 (42-56)	Low	b	Moderate	105
Terminalia chebula Retz.	**myrabolan**	MYR	hararh, harr (Hin), harar (Pun)	Y	945 (755-1 140)	59 (47-71)	Low	c	High	105
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asna, sain (Hin), aisan (Pun)	X	850 (610-960)	53 (38-60)	Moderate	b	High	100
Ulmus wallichiana Planch.	**elm**	ELM	emori (Hin), mareen (Pun)	†Z	530 (350-675)	33 (22-42)	Low	—	Low	45
2. FURNITURE AND CABINET MAKING										
a) Coniferous										
Abies pindrow Royle *Abies spectabilis* Spach. (Syn. *Abies webbiana* Lindl.)	**fir**	FIR	morinda (Hin), pand, rai, tosh (HP), partal (Pun)	X	450 (335-690)	28 (21-43)	Low	d	Low	55
Cedrus deodara Loudon	**deodar**	DEO	deodar (Hin), kelo, kelon (HP), diar (Pun)	X	545 (465-705)	34 (29-44)	High	c	Low	75
Cupressus torulosa Don	**cypress**	CYP	devidiar, leuri (Hin), saro (HP), surai (Kumaon)	Y	515 (430-610)	32 (27-38)	High	c	Low	75
Picea smithiana Boiss. (Syn. *Picea morinda* Link)	**spruce**	SPR	partal, rai (Pun)	X	480 (290-655)	30 (18-41)	Low	d	Low	60
Pinus roxburghii Sargent (Syn. *Pinus longifolia* Roxb.)	**chir**	CHR	chir (Hin), chil (Pun)	X	575 (430-755)	36 (27-47)	Low	b	Low	65

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TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Pinus wallichiana A. B. Jacks. (Syn. *Pinus excelsa* Wall.)	**kail**	KAL	kail (Hin)	X	515 (400-690)	32 (25-43)	Low	c	Low	55
			b) Broad Leaved (Non-coniferous)							
Acer sp.	**maple**	MAP	kanjula (Garhwal), kainju (Jaunsar), kulu (Kumaon), kenzal, mandar (Pun)	†Y	575 (415-815)	36 (26-51)	Low	—	Moderate	75
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Hin)	X	675 (595-735)	42 (37-46)	Low	a	Moderate	95
Aesculus indica Colebr.	**horse-chestnut**	HCH	bankhor (Hin), han (Kash), pangar (Kumaon), gun, khanor (Pun)	†X	515 (—)	32 (—)	—	—	Moderate	—
Albizzia lebbeck Benth.	**kokko**	KOK	siris (Hin), sarin, shrin (Pun)	Y	640 (480-755)	40 (30-47)	High	c	Moderate	95
Albizzia odoratissima Benth.	**kala-siris**	KSI	kala siris (Hin), kurmuru (Pun)	Y	735 (595-1 010)	46 (37-63)	High	c	Moderate	140
Albizzia procera Benth.	**safed-siris**	SSI	safed siris (Hin)	Y	640 (495-835)	40 (31-52)	Moderate	c	Moderate	95
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	90
Betula sp.	**birch**	BIR	bhojpatra, bhuj (Hin), sheori (HP), burza (Kash)	‡Y	625 (—)	39 (—)	—	—	Moderate	—
Cedrela toona Roxb.	**toon**	TOO	tun (Hin)	X	515 (385-610)	32 (24-38)	Low	c	Moderate	65
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin), tahli (Pun)	X	785 (625-930)	49 (39-58)	Moderate	c	Moderate	105
Fraxinus sp.	**ash**	ASH	hum (Kash), sum (Pun)	Z	720 (575-770)	45 (36-48)	Low	—	Moderate	75
Gmelina arborea Linn.	**gamari**	GAM	gamari, gamhar, khamhar (Hin), gumhar, kumhar (Pun)	Y	495 (415-610)	32 (26-38)	High	—	Moderate	75
Grewia tiliæfolia Vahl.	**dhaman**	DHA	phalsa (Pun)	Y	785 (610-880)	49 (38-55)	Moderate	d	Moderate	140
Holoptelea integrifolia Planch.	**kanju**	KAN	kanju, papri (Hin), kumkar, rajain (Pun)	X	595 (480-655)	37 (30-41)	Low	b	Moderate	80
Juglans sp.	**walnut**	WAL	akhor, akhrot, khor (Hin)	†X	575 (415-800)	36 (26-50)	Low	—	Moderate	75

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Lagerstræmia parviflora Roxb.	**lendi**	LEN	asidh, dhauri, sida (Hin)	Z	755 (705-800)	47 (44-50)	Low	e	High	95
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amb (Pun)	X	690 (610-800)	43 (38-50)	Low	a	Low	90
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam, phaldu (Hin)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	85
Morus sp.	**mulberry**	MUL	shahtut (Hin & Pun), tut (Pun)	Z	675 (530-835)	42 (33-52)	Low	—	Moderate	85
Quercus floribunda Wall. (Syn. *Quercus dilatata* Lindl.) *Quercus glauca* Thunb. *Quercus incana* Roxb. *Quercus lanuginosa* Don *Quercus semecarpifolia* Smith	**Indian oaks**	IOA	mohru, moru, tilonj (Hin) phariant (Hin), bami (Pun) ban, banj, bhanj (Hin) rianj (Hin) kharsu (Hin)	†X	865 (690-960)	54 (43-60)	Moderate	—	High	110
Stereospermum personatum (Hassk.) Chatt. (Syn. *Stereospermum chelonoides* DC.) *Stereospermum suaveolens* DC.	**padri**	PAD	padal, paral (Hin)	Y	720 (560-975)	45 (35-61)	Low	—	Moderate	95
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asna, sain (Hin), aisan (Pun)	X	850 (610-960)	53 (38-60)	Moderate	b	High	110
			3. LIGHT PACKING CASES							
			a) Coniferous							
Abies pindrow Royle *Abies spectabilis* Spach. (Syn. *Abies webbiana* Lindl.)	**fir**	FIR	morinda (Hin), pand, rai, tosh (HP), partal (Pun)	X	450 (335-690)	28 (21-43)	Low	d	Low	75
Cedrus deodara Loudon	**deodar**	DEO	deodar (Hin), kelo, kelon (HP), diar (Pun)	X	545 (465-705)	34 (29-44)	High	c	Low	80
Cupressus torulosa Don	**cypress**	CYP	devidiar, leuri (Hin), saro (HP), surai (Kumaon)	Y	515 (430-610)	32 (27-38)	High	e	Low	80
Picea smithiana Boiss. (Syn. *Picea morinda* Link)	**spruce**	SPR	partal, rai (Pun)	X	480 (290-655)	30 (18-41)	Low	d	Low	75
Pinus roxburghii Sargent (Syn. *Pinus longifolia* Roxb.)	**chir**	CHR	chir (Hin), chil (Pun)	X	575 (430-755)	36 (27-47)	Low	b	Low	80
Pinus wallichiana A. B. Jacks. (Syn. *Pinus excelsa* Wall.)	**kail**	KAL	kail (Hin)	X	515 (400-690)	32 (25-43)	Low	c	Low	70

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
b) Broad Leaved (Non-coniferous)										
Alnus nepalensis Don *Alnus nitida* Endl.	**alder**	ALD	utis (Hin), kosh (HP), sharol, shaur (Pun) piak (HP), kunis (Sirmur)	†X	370 (305-450)	23 (19-28)	—	—	Low	70
‡*Alstonia scholaris* R. Br.	**chatian**	CHT	chitiyan, satni, satwin (Hin)	Z	415 (350-465)	26 (22-29)	Low	—	Low	70
Boswellia serrata Roxb.	**salai**	SAA	salai (Hin), shala (Pun)	Y	575 (495-800)	36 (31-50)	Low	e	Low	85
Ficus sp.	**figs**	FIG	gular, pakar (Pun)	Z	465 (—)	29 (—)	—	—	Low	—
Gmelina arborea Linn.	**gamari**	GAM	gamari, gamhar, khamhar (Hin), gumhar, kumhar (Pun)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Holoptelea integrifolia Planch.	**kanju**	KAN	kanju, papri (Hin), kumkar, rajain (Pun)	X	595 (480-655)	37 (30-41)	Low	b	Moderate	95
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	baurang (Hin), bathura (Pun)	Z	480 (400-545)	30 (25-34)	Low	c	Low	75
Kydia calycina Roxb.	**pula**	PUL	pola, pula (Hin)	Z	385 (—)	24 (—)	—	—	Low	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	jhingan, moyen (Hin), kembal (Pun)	Z	575 (495-675)	36 (31-42)	Low	e	Moderate	75
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amb (Pun)	X	690 (610-800)	43 (38-50)	Low	a	Low	110
Melia azedarach Linn.	**Persian lilac**	PLI	bakain, darekh (Hin)	Z	595 (465-850)	37 (29-53)	Low	—	Moderate	100
Populus sp.	**poplar**	POP	chalun (HP), bahan, phalash (Pun), chalan (Sirmur)	Z	450 (385-610)	28 (24-38)	—	—	Low	75
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	semal (Hin), simal (Pun)	X	385 (255-530)	24 (16-33)	Low	a	Low	70
‡*Trewia nudiflora* Linn.	**gutel**	GUT	gutel (Hin), gumhar (HP)	Y	450 (—)	28 (—)	Low	—	Low	—
4. HEAVY PACKING CASES (for packing machinery and similar stores)										
a) Coniferous										
Cedrus deodara Loudon	**deodar**	DEO	deodar (Hin), kelo, kelon (HP), diar (Pun)	X	545 (465-705)	34 (29-44)	High	c	Low	80

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
b) Broad Leaved (Non-coniferous)										
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Hin)	X	675 (595-735)	42 (37-46)	Low	a	Moderate	105
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	95
Cedrela toona Roxb.	**toon**	TOO	tun (Hin)	X	515 (385-610)	32 (24-38)	Low	c	Moderate	80
Garuga pinnata Roxb.	**garuga**	GAU	ghoghar, kaikar, karapat (Hin)	Z	610 (465-690)	38 (29-43)	Low	e	Moderate	95
Gmelina arborea Linn.	**gamari**	GAM	gamari, gamhar, khamhar (Hin), gumhar, kumhar (Pun)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Lagerstroemia parviflora Roxb.	**lendi**	LEN	asidh, dhauri, sida (Hin)	Z	755 (705-800)	47 (44-50)	Low	e	High	110
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amb (Pun)	X	690 (610-800)	43 (38-50)	Low	a	Low	110
Melia azedarach Linn.	**Persian lilac**	PLI	bakain, darekh (Hin)	Z	595 (465-850)	37 (29-53)	Low	—	Moderate	100
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam, phaldu (Hin)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	105
Pterospermum acerifolium Willd.	**hathipaila**	HAT	kanak-champa, mayeng (Hin), later (HP)	Z	595 (400-720)	37 (25-45)	Low	c	Moderate	105
Stereospermum personatum (Hassk.) Chatt. (Syn. *Stereospermum chelonoides* DC.) *Stereospermum suaveolens* DC.	**padri**	PAD	padal, paral (Hin)	Y	720 (560-975)	45 (35-61)	Low	—	Moderate	120
Syzygium cumini Skeels (Syn. *Eugenia jambolana* Lamk.)	**jaman**	JAM	jamun (Hin)	X	785 (705-815)	49 (44-51)	Moderate	e	High	110
Terminalia bellirica Roxb.	**bahera**	BAH	bahera (Hin), bhaira (Pun)	X	815 (675-895)	51 (42-56)	Low	b	Moderate	—

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**) kg/m³	lb/ft³	Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
5. AGRICULTURAL IMPLEMENTS AND TOOL HANDLES										
a) Coniferous										
Nil										
b) Broad Leaved (Non-coniferous)										
Acacia arabica Willd.	**babul**	BAB	babul (Hin), kikar (Pun)	X	785 (720-850)	49 (45-53)	Low	b	Moderate	135
Acacia catechu Willd.	**khair**	KHA	khair (Hin)	X	1 010 (880-1 170)	63 (55-73)	High	—	High	130
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	bakli, dhaura (Hin), chhal (HP), dhao (Pun)	X	895 (785-995)	56 (49-62)	Low	e	High	120
Anogeissus pendula Edgew.	**kardahi**	KAH	dhao, kardahi, kathdhai (Hin)	X	945 (815-1 090)	59 (51-68)	Low	—	High	130
Celtis australis Linn.	**celtis**	CEL	kharak, kharak chena, kharik (Hin), brimji (Kash), kharoh (Pun)	†Z	655 (—)	41 (—)	—	—	Low	—
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin), tahli (Pun)	X	785 (625-930)	49 (39-58)	Moderate	e	Moderate	105
Diospyros melanoxylon Roxb.	**ebony**	EBO	abnoos (Hin)	Y	835 (655-1 105)	52 (41-69)	Low	—	Moderate	90
Fraxinus sp.	**ash**	ASH	hum (Kash), sum (Pun)	†Z	720 (575-770)	45 (36-48)	Low	—	Moderate	110
Grewia sp.	**dhaman**	DHA	phalsa (Pun)	Y	770 (610-880)	48 (38-55)	Moderate	d	Moderate	125
Lagerstræmia parviflora Roxb.	**lendi**	LEN	asidh, dhauri, sida (Hin)	Z	755 (705-800)	47 (44-50)	Low	e	High	100
Olea sp.	**olive**	OLI	kau (Jaunsar), kao, khwan, ko, kohu, kow (Pun)	Z	1 055 (—)	66 (—)	—	—	Moderate	—
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	panan, sandan, tinnas, tinsa (Hin), sannan (Pun)	Y	850 (800-915)	53 (50-57)	High	—	Moderate	95
Parrotiopsis jacquemontiana (Deene) Rehd. (Syn. *Parrotia jacquemontiana* Deene)	**parrotia**	PAR	kilar, pasir, po, pohu (Pun)	Z	865 (—)	54 (—)	—	—	Moderate	115
Robinia pseudoacacia Linn.	**black locust**	BLO	—	Z	850 (—)	53 (—)	—	—	Moderate	—

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
6. TURNERY ARTICLES										
a) Coniferous										
Nil										
b) Broad Leaved (Non-coniferous)										
Acacia arabica Willd.	**babul**	BAB	babul (Hin), kikar (Pun)	X	785 (720-850)	49 (45-53)	Low	b	Moderate	—
Acer sp.	**maple**	MAP	kanjula (Garhwal), kainju (Jaunsar), kilu, kulu (Kumaon), kenzal, mandar (Pun)	†Y	575 (415-815)	36 (26-51)	Low	—	Moderate	—
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Hin)	X	675 (595-735)	42 (37-46)	Low	a	Moderate	—
Aesculus indica Colebr.	**horse-chestnut**	HCH	bankhor (Hin), han (Kash), pangar (Kumaon), gun, khanor (Pun)	†X	515 (—)	32 (—)	—	—	Moderate	—
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	—
Betula sp.	**birch**	BIR	bhojpatra, bhuj (Hin), sheori (HP), burza (Kash)	†Y	625 (—)	39 (—)	—	—	Moderate	—
Cedrela toona Roxb.	**toon**	TOO	tun (Hin)	X	515 (385-610)	32 (24-38)	Low	c	Moderate	—
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin), tahli (Pun)	X	785 (625-930)	49 (39-58)	Moderate	e	Moderate	—
Diospyros melanoxylon Roxb.	**ebony**	EBO	abnoos (Hin)	Y	835 (655-1 105)	52 (41-69)	Low	—	Moderate	—
Ficus sp.	**figs**	FIG	gular, pakar (Pun)	Z	465 (—)	29 (—)	—	—	Low	—
Fraxinus sp.	**ash**	ASH	hum (Kash), sum (Pun)	†Z	720 (575-770)	45 (36-48)	Low	—	Moderate	—
Gardenia latifolia Aiton	**gardenia**	GAR	papra (Hin)	Z	755 (705-835)	47 (44-52)	—	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	gamari, gamhar, khamhar (Hin), gumhar, kumhar (Pun)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	—
Holoptelea integrifolia Planch.	**kanju**	KAN	kanju, papri (Hin), kumkar, rajain (Pun)	X	595 (480-655)	37 (30-41)	Low	b	Moderate	—
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	baurang (Hin), bathura (Pun)	Z	480 (400-545)	30 (25-34)	Low	c	Low	—

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Juglans sp.	**walnut**	WAL	akhor, akhrot, khor (Hin)	†X	575 (415-800)	36 (26-50)	Low	—	Moderate	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	jhingan, moyen (Hin), kembal (Pun)	Z	575 (495-675)	36 (31-42)	Low	e	Moderate	—
Melia azedarach Linn.	**Persian lilac**	PLI	bakain, darekh (Hin)	Z	595 (465-850)	37 (29-53)	Low	—	Moderate	—
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam, phaldu (Hin)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	—
Olea sp.	**olive**	OLI	kau (Jaunsar), kao, khwan, ko, kohu, kow (Pun)	Z	1 055 (—)	66 (—)	—	—	Moderate	—
Parrotiopsis jacquemontiana (Deene) Rehd. (Syn. *Parrotia jacquemontiana* (Deene)	**parrotia**	PAR	kilar, pasir, po, pohu (Pun)	Z	865 (—)	54 (—)	—	—	Moderate	—
Pterospermum acerifolium Willd.	**hathipaila**	HAT	kanak-champa, mayeng (Hin), later (HP)	Z	595 (400-720)	37 (25-45)	Low	c	Moderate	—
Wrightia tomentosa Roem. et Sch.	**dudhi**	DUD	dudhi, indrajau (Hin)	Z	560 (—)	35 (—)	—	—	Low	—
7. VENEERS AND PLYWOOD										
a) Coniferous										
Nil										
b) Broad Leaved (Non-coniferous)										
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Hin)	X	675 (595-735)	42 (37-46)	Low	a	Moderate	—
Albizzia lebbeck Benth.	**kokko**	KOK	siris (Hin), sarin, shrin (Pun)	Y	640 (480-755)	40 (30-47)	High	c	Moderate	—
Albizzia odoratissima Benth.	**kala-siris**	KSI	kala siris (Hin), kurmuru (Pun)	Y	735 (595-1 010)	46 (37-63)	High	c	Moderate	—
Albizzia procera Benth.	**safed-siris**	SSI	safed siris (Hin)	Y	640 (495-835)	40 (31-52)	Moderate	c	Moderate	—
Alnus nitida Endl.	**alder**	ALD	piak (HP), kunis (Hin & Sirmur)	Y	370 (305-450)	23 (19-28)	—	—	Low	—
‡*Alstonia scholaris* R. Br.	**chatian**	CHT	chitiyan, satni, satwin (Hin)	Z	415 (350-465)	26 (22-29)	Low	—	Low	—

TABLE I CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, NORTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	—
Cedrela toona Roxb.	**toon**	TOO	tun (Hin)	X	515 (385-610)	32 (24-38)	Low	c	Moderate	—
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin), tahli (Pun)	X	785 (625-930)	49 (39-58)	Moderate	e	Moderate	—
Garuga pinnata Roxb.	**garuga**	GAU	ghoghar, kaikar, khara-pat (Hin)	Z	610 (465-690)	38 (29-43)	Low	c	Moderate	—
Grevillea robusta A. Cunn.	**silver oak**	SOA	—	Z	640 (—)	40 (—)	—	—	Moderate	—
Holoptelea integrifolia Planch.	**kanju**	KAN	kanju, papri (Hin), kumhar, rajain (Pun)	X	595 (480-655)	37 (30-41)	Low	b	Moderate	—
Juglans sp.	**walnut**	WAL	akhor, akhrot, khor (Hin)	X	575 (415-800)	36 (26-50)	Low	—	Moderate	—
Kydia calycina Roxb.	**pula**	PUL	pola, pula (Hin)	Z	385 (—)	24 (—)	—	—	Low	—
Lannea coromandelica Merr. (Syn. *Lannea grandis Eng.*; *Odina wodier* Roxb.)	**jhingan**	JHI	jhingan, moyen (Hin), kembal (Pun)	Z	575 (495-675)	36 (31-42)	Low	e	Moderate	—
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amb (Pun)	X	690 (610-800)	43 (38-50)	Low	a	Low	—
Populus sp.	**poplar**	POP	chalun (HP), bahan, phalash (Pun), chalan (Sirmur)	Z	450 (385-610)	28 (24-38)	—	—	Low	—
Pterospermum acerifolium Willd.	**hathipaila**	HAT	kanak-champa, mayeng (Hin), later (HP)	Z	595 (400-720)	37 (25-45)	Low	c	Moderate	—
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	semal (Hin), simal (Pun)	X	385 (255-530)	24 (16-33)	Low	a	Low	—
Syzygium cumini Skeels (Syn. *Eugenia jambolana* Lamk.)	**jaman**	JAM	jamun (Hin)	X	785 (705-815)	49 (44-51)	Moderate	e	High	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asna, sain (Hin), aisan (Pun)	X	850 (610-960)	53 (38-60)	Moderate	b	High	—

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE

(Clause 4)

NOTE — The following signs against the class of availability indicate that the particular species is mostly common only in the given area:

*Assam @Andamans +Orissa

An obelisk (†) against the class of availability of a species indicates that the timber grows in hilly areas, and on account of the difficulty and high cost of extraction, it is not fully exploited at present.
Mark (‡) against a species indicates matchwood.

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. CONSTRUCTIONAL PURPOSES										
a) Coniferous										
Abies densa Griff.	**fir**	FIR	gobre salla (Nep)	X	—	—	—	—	Low	—
Pinus insularis Endl. (Syn. *Pinus khasya* Royle)	**khasi pine**	KPI	diengse, dingsa (Asm), saral (Ben), uchal (Manip)	Z	515 (—)	32 (—)	Low	—	Moderate	—
b) Broad Leaved (Non-coniferous)										
Acacia arabica Willd.	**babul**	BAB	babla (Ben)	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	105
Acacia catechu Willd.	**khair**	KHA	khoira (Asm), khair (Hin), khaira (Oriya)	X	1 010 (880-1 170)	63 (55-73)	High	—	High	120
Acacia leucophlaea Willd.	**hiwar**	HIW	hiwar, nimnar (Hin), gohira, gwaria, johira (Oriya)	Z	785 (690-880)	49 (43-55)	—	—	High	75
Acrocarpus fraxinifolius Wight	**mundani**	MUN	mandane (Nep)	Z	690 (465-800)	43 (29-50)	Low	c	Moderate	100
Aglaia sp.	**aglaia**	AGL	lateikh, momailateku (Asm)	*Z	850 (610-960)	53 (38-60)	—	—	High	105
Albizzia lebbeck Benth.	**kokko**	KOK	hirih (Asm), sirish (Ben), siris (Hin & Oriya)	@X	640 (480-755)	40 (30-47)	High	c	Moderate	90
Albizzia odoratissima Benth.	**kala-siris**	KSI	hihand, joti-koroi (Asm), koroi (Ben), kiachalom (Kol)	Y	735 (595-1 010)	46 (37-63)	High	c	Moderate	120
Albizzia procera Benth.	**safed-siris**	SSI	sit (And), koroi (Asm & Ben), tenthra (Kol), dhala sirish (Oriya)	Y	640 (495-835)	40 (31-52)	Moderate	c	Moderate	85
Altingia excelsa Noronha	**jutili**	JUT	jutili (Asm)	*Z	800 (655-960)	50 (41-60)	Moderate	c	High	105

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Anogeissus acuminata Wall.	**yon**	YON	garahessel (Kol), phansi (Oriya)	+Y	850 (755-930)	53 (47-58)	Moderate	c	High	105
Anogeissus latifolia Wall.	**axlewood(bakli)**	AXL	bakli, dhaura (Hin), hessel (Kol), banjhi (Nep), dhaw (Oriya)	X	930 (785-1 105)	58 (49-69)	Low	c	High	95
Artocarpus chaplasha Roxb.	**chaplash**	CHP	taungpeine (And), cham, sam (Asm), chapalish (Ben), latore (Nep)	X	515 (320-675)	32 (20-42)	Moderate	d	Moderate	80
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kanthal (Hin), rukkathar (Nep), panas (Oriya)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	75
Avicennia officinalis Linn.	**baen**	BAE	bani, dudhi-baen (Ben)	Y	785 (—)	49 (—)	—	—	High	
Bischofia javanica Blume	**uriam**	URI	ye padauk (And), kainjal (Ben & Nep)	Y	755 (595-865)	47 (37-54)	Low	c	High	75
Bridelia retusa Spreng.	**kasi**	KAS	kuhir (Asm), kaka (Kol), gayo (Nep), kosi (Oriya)	X	595 (515-675)	37 (32-42)	Moderate	c	Moderate	75
Careya arborea Roxb.	**kumbi**	KUM	kumbhi (Asm & Ben), kambi (Hin)	X	785 (560-915)	49 (35-57)	High	—	High	80
Cassia fistula Linn.	**amaltas**	AMT	sanaru (Asm), bandarlathi (Ben), amaltas (Hin), hari (Kol), sonalu (Nep), sonari (Oriya)	X	865 (735-1 025)	54 (46-64)	Moderate	—	High	110
Castanopsis sp.	**chestnut**	CHE	hingori (Asm)	Y	640 (545-770)	40 (34-48)	Moderate	b	Moderate	80
Casuarina equisetifolia Linn.	**casuarina**	CAS	jhau (Ben), jhaun (Oriya)	Y	850 (785-930)	53 (49-58)	Low	c	High	90
Cedrela toona Roxb.	**toon**	TOO	jatipoma (Asm), tun (Hin), katangai (Kol), tuni (Nep), mahalimbo (Oriya)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	60
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	yin-mabin (And), bogapoma (Asm)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	80
Cinnamomum sp.	**cinnamon**	CIN	gondsoroi (Asm), gundroi, tejpat (Ben), malagiri (Nep)	Z	655 (545-770)	41 (34-48)	Low	—	Moderate	90
Cleistanthus collinus (Roxb.) Benth. & HK.	**karada**	KAA	garar, garari (Hin), parasu (Kol), karada (Oriya)	X	850 (—)	53 (—)	Moderate	—	High	
Cynometra polyandra Roxb.	**ping**	PIG	ping (Asm)	*Z	915 (835-960)	57 (52-60)	Low	b	High	115
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	satisal (Ben), kiri (Kol), sissu (Oriya)	Z	835 (640-945)	52 (40-59)	High	—	Moderate	90

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin)	Y	770 (690-850)	48 (43-53)	Moderate	e	Moderate	85
Dillenia sp.	**dillenia**	DIL	zinbyun (And), otenga (Asm), chalta, tartari (Ben), panchphal (Nep), rai (Oriya)	X	625 (560-705)	39 (35-44)	Low	—	Moderate	80
Diospyros melanoxylon Roxb.	**ebony**	EBO	kend (Ben), abnoos, kendu (Hin), tiril (Kol)	Z	835 (655-1 105)	52 (41-69)	Low	—	Moderate	75
Dipterocarpus macrocarpus Vesque	**hollong**	HON	hollong (Asm)	*X	735 (640-880)	46 (40-55)	Low	a	Moderate	110
Dipterocarpus sp.	**gurjan**	GUR	garjan (Asm)	X	785 (705-960)	49 (44-60)	Low	b	Moderate	105
Gmelina arborea Linn.	**gamari**	GAM	yemane (And), gomari (Asm), gumhar (Ben), kasmar (Kol), khamari (Nep), gambhari (Oriya)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	55
Grewia sp.	**dhaman**	DHA	gonyer (Kol)	Y	770 (610-880)	48 (38-55)	Moderate	d	Moderate	110
Lagerstræmia hypoleuca Kurz	**pyinma**	PYI	pyinma (And)	@X	610 (480-705)	38 (30-44)	Moderate	—	Moderate	80
Lagerstræmia parviflora Roxb.	**lendi**	LEN	mechi (Asm), sidha (Ben & Oriya), gara sekre (Kol), buri-dhamero (Nep)	X	755 (705-800)	47 (44-50)	Low	e	High	95
Lagerstræmia speciosa Pers. (Syn. *Lagerstræmia flosreginæ* Retz.)	**jarul**	JAR	ajhar (Asm), gara sekre (Kol), panipatuli (Oriya)	Y	625 (495-785)	39 (31-49)	Moderate	e	Moderate	80
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	nabe (And), ruhimala (Asm), kuhimala (Lower Asm), jial, jiga (Ben), doka (Kol), jeol (Nep), moi (Oriya)	X	575 (495-675)	36 (31-42)	Low	e	Moderate	50
Madhuca indica Gmel. [Syn. *Bassia latifolia* Roxb.; *Madhuca latifolia* (Roxb.) Macbride]	**mahua**	MAU	mohwa (Hin), madkam (Kol), mahula (Oriya)	X	915 (755-1 040)	57 (47-65)	High	e	High	75
Mesua ferrea Linn.	**mesua**	MES	gangane (And), nahor (Asm), nageswar, nagkesar (Ben), negeswar (Oriya)	X	995 (900-1 075)	62 (56-67)	High	e	High	150

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam, guri (Hin), hamsabeti (Kol), mitukunia (Oriya)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	75
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	bandhan, pandhan (Hin), ruta (Kol)	Y	850 (800-915)	53 (50-57)	High	—	Moderate	80
Protium serratum (Wall. ex Colebr.) Engl. (Syn. *Bursera serrata* Colebr.)	**murteuga**	MUR	gutgotya (Ben), kaka, kandeor (Kol), nimburamoi (Oriya)	X	785 (—)	49 (—)	Moderate	e	Moderate	—
Pterocarpus dalbergioides Roxb.	**padauk**	PAA	padauk (And)	@X	720 (515-900)	45 (32-56)	High	c	Moderate	105
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	piasal (Ben & Oriya), hid (Kol)	X	800 (720-880)	50 (45-55)	High	e	Moderate	100
Quercus sp.	**Indian oaks**	IOA	buk (Ben), phalant (Nep)	X	865 (690-960)	54 (43-60)	Moderate	—	High	110
Schima wallichii Choisy	**chilauni**	CHL	gogra, makrisal (Asm)	X	655 (575-800)	41 (36-50)	Low	d	Moderate	85
Shorea assamica Dyer	**makai**	MAK	makai (Asm)	*Y	575 (480-690)	36 (30-43)	Low	c	Moderate	75
Shorea robusta Gærtn. f.	**sal**	SAL	sakhua (Hin), sarjam (Kol), raigala, sargi (Oriya)	X	880 (675-1 060)	55 (42-66)	High	c	High	120
Soymida febrifuga A. Juss.	**rohini**	ROH	rohina (Ben), rohan (Hin), rohini (Kol), rohini, sohan, suan (Oriya)	Z	1 155 (915-1 265)	72 (57-79)	High	—	High	130
Stereospermum sp.	**padri**	PAD	paroli (Asm), husi (Kol), parari (Nep), patuli (Oriya)	Z	720 (560-975)	45 (35-61)	Low	—	Moderate	85
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	jamuk (Asm), jam (Ben), kuda (Kol), jamu (Oriya)	Y	815 (705-930)	51 (44-58)	Moderate	e	High	95
Tamarindus indica Linn.	**imli**	IML	jojo (Kol), tenthuli (Oriya)	Z	915 (—)	57 (—)	—	—	Moderate	65
Tectona grandis Linn. f.	**teak**	TEA	sagoon (Asm), shegun (Ben), sagwan (Hin), saguan (Oriya)	Y	640 (515-785)	40 (32-49)	High	e	Moderate	100
Terminalia arjuna W & A.	**arjun**	ARJ	kowa (Kol), arjuna (Oriya)	X	815 (640-995)	51 (40-62)	Moderate	b	Moderate	70

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Terminalia bialata Steudel	**white chuglam (silver grey-wood)**	WCH (SGR)	safed chuglam (And)	@X	705 (495-815)	44 (31-51)	Low	e	Moderate	95
Terminalia manii King	**black chuglam**	BCH	kala chuglam (And)	@X	800 (610-930)	50 (38-58)	Low	a	Moderate	100
Terminalia myriocarpa Heurck et Muell. Arg.	**hollock**	HOL	panisaj (Nep)	X	610 (450-705)	38 (28-44)	Low	a	Moderate	70
Terminalia procera Roxb.	**white bombwe**	WBO	badam (And)	@X	610 (430-755)	38 (27-47)	Low	b	Moderate	80
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asan, asna, sain (Hin), hatana (Kol), pucca saj (Nep), sahaja (Oriya)	X	880 (610-995)	55 (38-62)	Moderate	b	High	100
Xylia xylocarpa Taub.	**irul**	IRU	kongra, tangan (Oriya)	Y	850 (755-1 010)	53 (47-63)	High	e	High	105
			2. FURNITURE AND CABINET MAKING							
			a) Coniferous							
Abies densa Griff.	**fir**	FIR	gobre salla (Nep)	X	—	—	—	—	Low	—
Pinus insularis Endl. (Syn. *Pinus khasya* Royle)	**khasi pine**	KPI	diengse, dingsa (Asm), saral (Ben), uchal (Manip)	Z	515	32	Low	—	Low	—
Tsuga dumosa (D. Don) Eichler (Syn. *Tsuga brunoniana* Carr.)	**hemlock**	HEM	tengre salla (Nep)	Y	400 (335-575)	25 (21-36)	—	—	—	—
			b) Broad Leaved (Non-coniferous)							
Acer sp.	**maple**	MAP	kapasi (Ben), kapashi (Nep)	†Z	575 (415-815)	36 (26-51)	Low	—	Moderate	75
Acrocarpus fraxinifolius Wight	**mundani**	MUN	mandane (Nep)	Z	690 (465-800)	43 (29-50)	Low	c	Moderate	100
Adina cordifolia Hook. f.	**haldu**	HAL	tamaksopa (Asm), rangkat (Ben), karam (Hin), kumbha (Kol), kuruma (Oriya)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	95
Albizzia lebbeck Benth.	**kokko**	KOK	hirih (Asm), sirish (Ben), siris (Hin & Oriya)	X	640 (480-755)	40 (30-47)	High	c	Moderate	95
Albizzia odoratissima Benth.	**kala-siris**	KSI	hihand, joti-koroi (Asm), koroi (Ben), kiachalom (Kol)	Y	735 (595-1 010)	46 (37-63)	High	c	Moderate	140

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Albizzia procera Benth.	**safed-siris**	SSI	sit (And), koroi (Asm & Ben), tenthra (Kol), dhala sirish (Oriya)	Y	640 (495-835)	46 (31-52)	Moderate	c	Moderate	95
Amoora wallichii King	**amari**	AMA	lalchini (And), amur (Asm), lali (Ben & Nep)	Y	625 (495-735)	39 (31-46)	Moderate	—	Moderate	75
Aphanamixis polystachya (Wall.) Parker (Syn. *Amoora rohituka* Wight et Arn.)	**pitraj**	PIT	boga amari (Asm), lochuni, loshune (Ben)	Y	690 (575-770)	43 (36-48)	High	—	Moderate	95
Artocarpus chaplasha Roxb.	**chaplash**	CHP	taungpeine (And), cham, sam (Asm), chapalish (Ben), latore (Nep)	X	515 (320-675)	32 (20-42)	Moderate	d	Moderate	90
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kanthal (Ben), rukkathar (Nep), panas (Oriya)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	90
Artocarpus lakoocha Roxb.	**lakooch**	LAK	lakooch (And), dahua (Ben), dao (Kol)	Z	640 (—)	40 (—)	High	—	Moderate	—
Betula sp.	**birch**	BIR	dieng-ling (Khasi), saur (Nep)	+Z	625 (—)	39 (—)	—	—	Moderate	—
Bridelia retusa Spreng	**kasi**	KAS	kuhir (Asm), kaka (Kol), gayo (Nep) kosi (Oriya)	X	595 (515-675)	37 (32-42)	Moderate	e	Moderate	85
Bucklandia populnea R. Br.	**pipli**	PIP	pipli (Ben)	+Z	595 (515-675)	37 (32-42)	—	—	Low	90
Canarium sikkimense King (Roxb.)	**dhup**	DHU	gokuldhup (Ben), gogul-dup (Nep)	Y	655 (—)	41 (—)	—	—	Low	—
Castanopsis sp.	**chestnut**	CHE	hingori (Asm)	Z	640 (545-770)	40 (34-48)	Moderate	b	Moderate	75
Cedrela toona Roxb.	**toon**	TOO	jatipoma (Asm), tun (Hin), katangai (Kol), tuni (Nep), mahalimbo (Oriya)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	65
Chloroxylon swietenia DC.	**satinwood**	SAT	bherul (Hin), bheru (Oriya)	Z	960 (835-1 105)	60 (52-69)	Low	—	High	130
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	yin-mabin (And), boga-poma (Asm)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	90
Cinnamomum sp.	**cinnamon**	CIN	gondsoroi (Asm), gun-droi, tejpat (Ben), mala-giri (Nep)	Z	655 (545-770)	41 (34-48)	Low	—	Moderate	80
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	satisal (Ben), kiri (Kol), sissu (Oriya)	Z	835 (640-945)	52 (40-59)	High	—	Moderate	115
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin)	Y	770 (690-850)	48 (43-53)	Moderate	e	Moderate	105

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Diospyros melanoxylon Roxb.	**ebony**	EBO	kend (Ben), abnoos, kendu (Hin), tiril (Kol)	Z	835 (655-1 105)	52 (41-69)	Low	—	Moderate	95
Dysoxylum binectariferum (Roxb.) HK.f. ex Bedd.	**devdam**	DEV	bandardima (Asm), losuni (Ben)	Y	720 (—)	45 (—)	—	—	Moderate	—
Fagara budrunga Roxb. (Syn. *Zanthoxylum budrunga* DC.)	**mullilam**	MUI	bajarnali (Asm), badrang, timur (Ben), morai (Oriya)	Y	735 (690-815)	46 (43-51)	—	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	yemane (And), gomari (Asm), gumhar (Ben), kasmar (Kol), khamari (Nep), gambhari (Oriya)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	75
Grewia sp.	**dhaman**	DHA	gonyer (Kol)	Y	770 (610-880)	48 (38-55)	Moderate	d	Moderate	100
Holoptelea integrifolia Planch.	**kanju**	KAN	anjan (Ben), chilbil, dhauranjo (Oriya)	Y	595 (480-655)	37 (30-41)	Low	b	Moderate	80
Juglans sp.	**walnut**	WAL	akhor, akrot, khor (Hin)	Z	575 (415-800)	36 (26-50)	Low	—	Moderate	75
Lagerstræmia hypoleuca Kurz	**pyinma**	PYI	pyinma (And)	@X	610 (480-705)	38 (30-44)	Moderate	—	Moderate	80
Lagerstræmia speciosa Pers. (Syn. *Lagerstræmia flosreginæ* Retz.)	**jarul**	JAR	ajhar (Asm), gara sekre (Kol), panipatuli (Oriya)	Y	625 (495-785)	39 (31-49)	Moderate	e	Moderate	90
‡*Mangifera indica* Linn.	**mango**	MAN	am (Asm & Hin), uli (Kol), amba (Oriya)	X	690 (610-800)	43 (38-50)	Low	a	Low	90
Michelia baillonii Finet et Gagnep (Syn. *Talauma phellocarpa* King)	**talauma**	TAL	tita-sopa (Asm), tilsundi (Ben)	Z	575 (—)	36 (—)	—	—	Moderate	—
Michelia champaca Linn.	**champ**	CHM	tita-sopa (Asm), champaca, champak (Ben), champa (Hin & Oriya)	Z	495 (400-595)	31 (25-37)	Low	c	Moderate	70
Michelia sp.	**champ**	CHM	sopa (Asm), champa (Ben & Oriya)	X	495 (370-675)	31 (23-42)	Low	—	Moderate	70
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	guri, kalam (Hin), hamsabeti (Kol), mitukunia (Oriya)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	85
Morus lævigata Wall.	**bola**	BOL	bhola (Asm), kimbu (Ben & Nep)	Z	655 (—)	41 (—)	—	—	Moderate	85
Phœbe sp.	**bonsum**	BON	angari (Nep)	Z	530 (370-655)	33 (23-41)	Low	c	Moderate	75
Polyalthia sp.	**debdaru**	DEB	kutharia (Oriya)	Z	640 (450-850)	40 (28-53)	Low	—	Moderate	90

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Protium serratum (Wall. ex Colebr.) Engl. (Syn. *Bursera serrata* Colebr.)	**murtenga**	MUR	gutgotya (Ben), kaka, kandeor (Kol), nimburamoi (Oriya)	X	785 (—)	49 (—)	Moderate	e	Moderate	—
Pterocarpus dalbergioides Roxb.	**padauk**	PAA	padauk (And)	@X	720 (515-900)	45 (32-56)	High	c	Moderate	100
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	piasal (Ben & Oriya), hid (Kol)	X	800 (720-880)	50 (45-55)	High	e	Moderate	100
Quercus sp.	**Indian oaks**	IOA	buk (Ben), phalant (Nep)	X	865 (690-960)	54 (43-60)	Moderate	—	High	110
Sonneratia apetala Ham.	**keora**	KEO	keowra (Ben)	Y	625 (480-720)	39 (30-45)	—	—	Moderate	80
Soymida febrifuga A. Juss.	**rohini**	ROH	rohina (Ben), rohan (Hin), rohini (Kol), rohini, sohan, suan (Oriya)	Z	1 155 (915-1 265)	72 (57-79)	High	—	High	—
Swietenia sp.	**mahogany**	MAO	—	**Z	675 (—)	42 (—)	—	—	Moderate	—
Tectona grandis Linn.f.	**teak**	TEA	sagoon (Asm), shegun (Ben), sagwan (Hin), saguan (Oriya)	Y	640 (515-785)	40 (32-49)	High	e	Moderate	100
Terminalia bialata Steudel	**white chuglam (silver grey-wood)**	WCH (SGR)	safed chuglam (And)	@X	705 (495-815)	44 (31-51)	Low	e	Moderate	85
Terminalia myriocarpa Heurck et Muell. Arg.	**hollock**	HOL	panisaj (Nep)	X	610 (450-705)	38 (28-44)	Low	a	Moderate	85
Terminalia procera Roxb.	**white bombwe**	WBO	badam (And)	@X	610 (430-755)	38 (27-47)	Low	b	Moderate	85
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asan, asna, sain (Hin), hatana (Kol), puccasaj (Nep), sahaja (Oriya)	X	880 (610-995)	55 (38-62)	Moderate	b	High	110
			3. LIGHT PACKING CASES							
			a) Coniferous							
Abies densa Griff.	**fir**	FIR	gobre salla (Nep)	X	—	—	—	—	Low	—
Cryptomeria japonica D. Don	**suji (dhupi)**	SUJ	dhupi (Ben)	X	270 (210-370)	17 (13-23)	—	e	Low	65
Pinus insularis Endl. (Syn. *Pinus khasya* Royle)	**khasi pine**	KPI	diengse, dingsa (Asm), saral (Ben), uchal (Manip)	Z	515 (—)	32 (—)	Low	—	Low	—

**From plantations and road side avenues only.

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Tsuga dumosa (D. Don) Eichler (Syn. *Tsuga brunoniana* Carr.)	**hemlock**	HEM	tengre salla (Nep)	Y	400 (335-575)	25 (21-36)	—	—	Low	75
			b) Broad Leaved (Non-coniferous)							
Ailanthus sp.	**gokul**	GOK	borpat (Asm), ghoranim, mahanim (Hin), mahalo (Oriya)	Z	415 (335-480)	26 (21-30)	Low	—	Low	70
Alnus nepalensis Don	**alder**	ALD	utis (Nep)	+Z	370 (305-450)	23 (19-28)	—	—	Low	70
‡*Alstonia scholaris* R. Br.	**chatian**	CHT	satiana (Asm), kungmung (Kol), chhatian (Nep & Oriya)	Z	415 (350-465)	26 (22-29)	Low	—	Low	70
‡*Anthocephalus cadamba* Miq.	**kadam**	KAD	sanko (Kol), kadamba (Oriya)	X	495 (385-640)	31 (24-40)	Low	a	Low	85
Boswellia serrata Roxb.	**salai**	SAA	salga (Hin)	X	575 (495-800)	36 (31-50)	Low	c	Low	85
Canarium euphyllum Kurz	**white dhup**	WDH	dhup (And)	@X	430 (305-610)	27 (19-38)	Low	—	Low	75
Canarium sikkimense King (Roxb.)	**dhup**	DHU	gokul dhup (Ben), gogul dhup (Nep)	Y	655 (—)	41 (—)	—	—	Low	—
Duabanga sonneratioides Ham.	**lampati**	LAP	myauk-myo (And), khokan (Asm)	X	515 (385-595)	32 (24-37)	Low	c	Low	80
‡*Endospermum* sp.	**bakota**	BAK	bakota (And)	@Y	430 (—)	27 (—)	Low	—	Low	—
‡*Evodia* sp.	**kambli**	KAM	khanakpa (Ben)	X	415 (—)	26 (—)	—	—	Moderate	—
Excoecaria agallocha Linn.	**geon**	GEO	gengwa (Ben), guan (Oriya)	Y	415 (—)	26 (—)	—	—	Low	—
Ficus sp.	**figs**	FIG	bar, dimaru (Asm), dimiri, jari (Oriya)	Z	465 (—)	29 (—)	—	—	Low	—
Gmelina arborea Linn.	**gamari**	GAM	yemane (And), gomari (Asm), gumhar (Ben), kasmar (Kol), khamari (Nep), gambhari (Oriya)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Holoptelea integrifolia Planch.	**kanju**	KAN	anjan (Ben), chilbil, dhauranjo (Oriya)	Y	595 (480-655)	37 (30-41)	Low	b	Moderate	95
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bharkundi (Asm), baurang (Bihar), bhurkal (Hin), latikaram (Nep), kansa (Oriya)	Z	480 (400-545)	30 (25-34)	Low	c	Low	75
Kydia calycina Roxb.	**pula**	PUL	pichola (Asm), bitagoinr (Kol), kubinde (Nep), banakapasia (Oriya)	X	385 (—)	24 (—)	—	—	Low	—

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	nabe (And), kuhimala, ruhimala (Asm), jial, jiga (Ben), doka (Kol), jeol (Nep), moi (Oriya)	X	575 (495-675)	36 (31-42)	Low	e	Moderate	75
Machilus gamblei King	**machilus**	MAC	kawala (Nep)	Z	515 (—)	32 (—)	Low	e	Moderate	—
‡*Mangifera indica* Linn.	**mango**	MAN	am (Asm & Hin), uli (Kol), amba (Oriya)	X	690 (610-800)	43 (38-50)	Low	a	Low	110
‡*Pterocymbium tinctorium* Merr. (Syn. *Sterculia campanulata* Wall.)	**papita**	PAP	papita (And)	@X	335 (255-450)	21 (16-28)	Low	—	Low	70
Pterygota alata R. Br. (Syn. *Sterculia alata* Roxb.)	**narikel**	NAR	letkok (And), pahari (Asm), tula (Ben)	Y	560 (450-640)	35 (28-40)	—	—	Low	90
‡*Salmalia insignis* Schott & Endl. (Syn. *Bombax insigne* Wall.)	**didu**	DID	didu (And), simal (Hin)	X	370 (175-545)	23 (11-34)	Low	a	Low	—
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**didu**	DID	edel (Kol), simuli (Oriya)	X	385 (255-530)	24 (16-33)	Low	a	Low	70
Sapium baccatum Roxb.	**seleng**	SEL	lelun (And), billa (Asm), ankrataruwa (Nep)	Y	495 (—)	31 (—)	—	—	Low	—
‡*Sideroxylon longepetiolatum* King et Prain	**lambapatti**	LAM	lambapatti (And)	@Y	545 (—)	34 (—)	Low	a	Low	—
‡*Spondias pinnata* Kurz (Syn. *Spondias mangifera* Willd.)	**amra**	AMR	ambara (And), amra (Ben), bamrao (Hin), ambo (Kol), ambada (Oriya)	Z	450 (—)	28 (—)	Low	—	Low	—
Sterculia urens Roxb.	**karar**	KRA	odla (Asm), karari (Hin), teley (Kol), girdhini, kodaro (Oriya)	Z	545 (—)	34 (—)	—	—	Low	—
‡*Sterculia villosa* Roxb.	**udal**	UDA	odal (Asm & Nep), sisi (Kol), kodale (Oriya)	X	255 (—)	16 (—)	—	—	Low	—
Tetrameles nudiflora R. Br.	**maina**	MAI	thitpok (And), bhelu, tula (Asm), moina (Ben)	X	320 (—)	20 (—)	Low	a	Low	—
‡*Trewia nudiflora* Linn.	**gutel**	GUT	belkol (Asm), pitali (Ben), gara-loa (Kol), pani-gambhari (Oriya)	Z	450 (—)	28 (—)	Low	—	Low	—
			4. HEAVY PACKING CASES (for packing machinery and similar stores)							
Acrocarpus fraxinifolius Wight	**mundani**	MUN	mandane (Nep)	Z	690 (465-800)	43 (29-50)	Low	c	Moderate	110

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Adina cordifolia Hook.f.	**haldu**	HAL	taraksopa (Asm), rangkat (Ben), karam (Hin), kumbha (Kol), kuruma (Oriya)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	105
Albizzia chinensis (Osbeck) Merr. (Syn. *Albizzia stipulata* Boivin)	**siris**	SIR	benmeza (And), kothia-koaroi (Asm), tarli (Ben), japud (Kol), ghoda-lanjia (Oriya)	Z	400 (—)	25 (—)	Low	e	Moderate	—
Amoora wallichii King	**amari**	AMA	lalchini (And), amur (Asm), lali (Ben & Nep)	Y	625 (495-735)	39 (31-46)	Moderate	—	Moderate	95
Aphanamixis polystachya (Wall.) Parker (Syn. *Amoora rohituka* Wight et Arn.)	**pitraj**	PIT	boga amari (Asm), lochuni, loshune (Ben)	Y	690 (575-770)	43 (36-48)	High	—	Moderate	105
Artocarpus chaplasha Roxb.	**chaplash**	CHP	taungpeine (And), cham sam, (Asm), chapalish (Ben), latore (Nep)	X	515 (320-675)	32 (20-42)	Moderate	d	Moderate	90
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kanthal (Hin), rukkathar (Nep), panas (Oriya)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	95
Avicennia officinalis Linn.	**baen**	BAE	bani, dudhi baen (Ben)	Y	785 (—)	49 (—)	—	—	High	—
Bauhinia sp.	**kanchan**	KAC	deva-kanchan, kanchan, rakta-kanchan (Ben), keolari (Hin), tanki (Nep)	Y	675 (—)	42 (—)	—	—	Moderate	—
Bischofia javanica Blume	**uriam**	URI	ye padauk (And), kainjal (Ben & Nep)	Y	755 (595-865)	47 (37-54)	Low	e	High	95
Bucklandia populnea R. Br.	**pipli**	PIP	pipli (Ben)	+Z	595 (515-675)	37 (32-42)	—	—	Low	100
Careya arborea Roxb.	**kumbi**	KUM	kumbhi (Asm & Ben), kambi (Hin)	X	785 (560-915)	49 (35-57)	High	—	High	115
Cedrela toona Roxb.	**toon**	TOO	jatipoma (Asm), tun (Hin), katangai (Kol), tuni (Nep), mahalimbo (Oriya)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	80
Dillenia sp.	**dillenia**	DIL	zinbyun (And), otenga (Asm), chalta, tartari (Ben), panchphal (Nep), rai (Oriya)	X	625 (560-705)	39 (35-44)	Low	—	Moderate	90
Dipterocarpus macrocarpus Vesque	**hollong**	HON	hollong (Asm)	*X	735 (640-880)	46 (40-55)	Low	a	Moderate	105
Dipterocarpus sp.	**gurjan**	GUR	garjan (Asm)	X	785 (705-960)	49 (44-60)	Low	b	Moderate	105

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dysoxylum binectariferum (Roxb.) HK. f. ex Bedd.	**devdam**	DEV	bandardima (Asm), losuni (Ben)	Y	720 (—)	45 (—)	—	—	Moderate	—
Garuga pinnata Roxb.	**garuga**	GAU	kharpat (Ben), armu (Kol), kathkusum, rajmoi (Oriya)	Y	610 (465-690)	38 (29-43)	Low	e	Moderate	95
Gmelina arborea Linn.	**gamari**	GAM	yemane (And), gomari (Asm), gumhar (Ben), kasmar (Kol), khamari (Nep), gambhari (Oriya)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Lagerstræmia parviflora Roxb.	**lendi**	LEN	mechi (Asm), sidha (Ben & Oriya), garasekre (Kol), buri-dhamero (Nep)	X	755 (705-800)	47 (44-50)	Low	e	High	110
Lagerstræmia speciosa Pers. (Syn. *Lagerstræmia flosreginæ* Retz.)	**jarul**	JAR	ajhar (Asm), garasekre (Kol), panipatuli (Oriya)	Y	625 (495-785)	39 (31-49)	Moderate	e	Moderate	110
Machilus gamblei King	**machilus**	MAC	kawala (Nep)	Z	515 (—)	32 (—)	Low	e	Moderate	—
‡*Mangifera indica* Linn.	**mango**	MAN	am (Asm & Hin), uli (Kol), amba (Oriya)	X	690 (610-800)	43 (38-50)	Low	a	Low	110
Michelia baillonii Finet et Gagnep (Syn. *Talauma phellocarpa* King)	**talauma**	TAL	tita-sopa (Asm), tilsundi (Ben)	Z	575 (—)	36 (—)	—	—	Moderate	—
Michelia sp.	**champ**	CHM	sopa (Asm), champa (Ben & Oriya)	X	495 (370-675)	31 (23-42)	Low	—	Moderate	80
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	guri, kalam (Hin), hamsabeti (Kol), mitukunia (Oriya)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	105
Morus lævigata Wall.	**bola**	BOL	bhola (Asm), kimbu (Ben & Nep)	Z	655 (—)	41 (—)	—	—	Moderate	105
Phœbe sp.	**bonsum**	BON	angari (Nep)	Z	530 (370-655)	33 (23-41)	Low	c	Moderate	85
Protium serratum (Wall. ex Colebr.) Engl. (Syn. *Bursera serrata* Colebr.)	**murtenga**	MUR	gutgotya (Ben), kaka, kandeor (Kol), nimburamoi (Oriya)	X	785 (—)	49 (—)	Moderate	e	Moderate	—
Pterospermum acerifolium Willd.	**hathipaila**	HAT	hathipoila (Asm), bailo, muckhukenda (Oriya)	Y	595 (400-720)	37 (25-45)	Low	c	Moderate	105
Shorea assamica Dyer	**makai**	MAK	makai (Asm)	*Y	575 (480-690)	36 (30-43)	Low	c	Moderate	90
Sonneratia apetala Ham.	**keora**	KEO	keowra (Ben)	Y	625 (480-720)	39 (30-45)	—	—	Moderate	95

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Stereospermum sp.	**padri**	PAD	paroli (Asm), husi (Kol), parari (Nep), patuli (Oriya)	Z	720 (560-975)	45 (35-61)	Low	—	Moderate	120
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	jamuk (Asm), jam (Ben), kuda (Kol), jamu (Oriya)	Y	815 (705-930)	51 (44-58)	Moderate	e	High	110
Tectona grandis Linn. f.	**teak**	TEA	sagoon (Asm), shegun (Ben), sagwan (Hin), saguan (Oriya)	Y	640 (515-785)	40 (32-49)	High	e	Moderate	100
Terminalia bellirica Roxb.	**bahera**	BAH	bhomora (Asm), lupung (Kol), bahada (Oriya)	X	815 (675-895)	51 (42-56)	Low	b	Moderate	—
Terminalia myriocarpa Heurck et Muell. Arg.	**hollock**	HOL	panisaj (Nep)	X	610 (450-705)	38 (28-44)	Low	a	Moderate	95
Terminalia procera Roxb.	**white bombwe**	WBO	badam (And)	@X	610 (430-755)	38 (27-47)	Low	b	Moderate	100
			5. AGRICULTURAL IMPLEMENTS AND TOOL HANDLES							
Acacia arabica Willd.	**babul**	BAB	babla (Ben)	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	135
Acacia catechu Willd.	**khair**	KHA	khoira (Asm), khair (Hin), khaira (Oriya)	X	1 010 (880-1 170)	63 (55-73)	High	—	High	130
Acacia leucophlœa Willd.	**hiwar**	HIW	hiwar, nimbar (Hin), gohira, gwaria, johira (Oriya)	Z	785 (690-880)	49 (43-55)	—	—	High	—
Anogeissus acuminata Wall.	**yon**	YON	garahessel (Kol), phansi (Oriya)	+Y	850 (755-930)	53 (47-58)	Moderate	c	High	125
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	bakli, dhaura (Hin), hessel (Kol), banjhi (Nep), dhaw (Oriya)	X	930 (785-1 105)	58 (49-69)	Low	e	High	120
Barringtonia acutangula Gaertn.	—	—	hijjal (Ben), hinjal (Hin), dundi (Kol), hinjala (Oriya)	Z	575 (—)	36 (—)	—	—	Moderate	—
Bauhinia sp.	**kanchan**	KAC	deva-kanchan, kanchan, rakta-kanchan (Ben), keolari (Hin), tanki (Nep)	Y	675 (—)	42 (—)	—	—	Moderate	—
Bridelia retusa Spreng.	**kasi**	KAS	kuhir (Asm), kaka (Kol), gayo (Nep), kosi (Oriya)	X	595 (515-675)	37 (32-42)	Moderate	e	Moderate	—
Careya arborea Roxb.	**kumbi**	KUM	kumbhi (Asm & Ben), kambi (Hin)	X	785 (560-915)	49 (35-57)	High	—	High	95
Cynometra polyandra Roxb.	**ping**	PIG	ping (Asm)	*Z	915 (835-960)	57 (52-60)	Low	b	High	130
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	satisal (Ben), kiri (Kol), sissu (Oriya)	Z	835 (640-945)	52 (40-59)	High	—	Moderate	110

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin)	Y	770 (690-850)	48 (43-53)	Moderate	e	Moderate	105
Diospyros melanoxylon Roxb.	**ebony**	EBO	kend (Ben), abnoos, kendu (Hin), tiril (Kol)	Z	835 (655-1 105)	52 (41-69)	Low	—	Moderate	90
Grewia sp.	**dhaman**	DHA	gonyer (Kol)	Y	770 (610-880)	48 (38-55)	Moderate	d	Moderate	125
Lagerstræmia parviflora Roxb.	**lendi**	LEN	mechi(Asm),sidha (Ben & Oriya), garasekre (Kol), buri-dhamero (Nep)	X	755 (705-800)	47 (44-50)	Low	e	High	100
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	bandhan, pandhan (Hin), ruta (Kol)	Y	850 (800-915)	53 (50-57)	High	—	Moderate	95
Schleichera oleosa Oken (Syn. *Schleichera trijuga* Willd.)	**kusum**	KUS	baru (Kol), kusuma (Oriya)	Y	1 105 (1 060-1 185)	69 (66-74)	Low	a	High	155
Soymida febrifuga A. Juss.	**rohini**	ROH	rohina (Ben), rohan (Hin), rohini (Kol), rohini, sohan, suan (Oriya)	Z	1 155 (915-1 265)	72 (57-79)	High	—	High	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asan, asna, sain (Hin), hatana (Kol), pucca saj (Nep), sahaja (Oriya)	X	880 (610-995)	55 (38-62)	Moderate	b	High	110
Xylia xylocarpa Taub.	**irul**	IRU	kongra, tangan (Oriya)	Y	850 (755-1 010)	53 (47-63)	High	e	High	110
			6. TURNERY ARTICLES AND TOYS							
Acacia arabica Willd.	**babul**	BAB	babla (Ben)	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	—
Acer sp.	**maple**	MAP	kapasi (Ben), kapashi (Nep)	+Z	575 (415-815)	36 (26-51)	Low	—	Moderate	—
Adina cordifolia Hook. f.	**haldu**	HAL	taraksopa (Asm), rangkat (Ben), karam (Hin), kumbha (Kol), kuruma (Oriya)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	—
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kanthal (Hin), rukkathar (Nep), panas (Oriya)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	—
Betula sp.	**birch**	BIR	dieng-ling (Khasi), saur (Nep)	+Z	625 (—)	39 (—)	—	—	Moderate	—

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Castanopsis sp.	**chestnut**	CHE	hingori (Asm)	Z	640 (545-770)	40 (34-48)	Moderate	b	Moderate	—
Cedrela toona Roxb.	**toon**	TOO	jè ipoma (Asm), tun (Hin), katangai (Kol), tuni (Nep), mahalimbo (Oriya)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	—
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	yin-mabin (And), boga-poma (Asm)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	—
Cinnamomum sp.	**cinnamon**	CIN	gondsoroi (Asm), gundroi, tejpat (Ben), malagiri (Nep)	Z	655 (545-770)	41 (34-48)	Low	—	Moderate	—
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	satisal (Ben), kiri (Kol), sissu (Oriya)	Z	835 (640-945)	52 (40-59)	High	—	Moderate	—
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin)	Y	770 (690-850)	48 (43-53)	Moderate	c	Moderate	—
Diospyros melanoxylon Roxb.	**ebony**	EBO	kend (Ben), abnoos, kendu (Hin), tiril (Kol)	Z	835 (655-1 105)	52 (41-69)	Low	—	Moderate	—
Excœcaria agallocha Linn.	**geon**	GEO	gengwa (Ben), guan (Oriya)	Y	415 (—)	26 (—)	—	—	Low	—
Fagara budrunga Roxb. (Syn. *Zanthoxylum budrunga* DC.)	**mullilam**	MUI	bajarnali (Asm), badrang, timur (Ben), morai (Oriya)	Y	735 (690-815)	46 (43-51)	—	—	Moderate	—
Ficus sp.	**figs**	FIG	bar, dimaru (Asm), dimiri, jari (Oriya)	Z	465 (—)	29 (—)	—	—	Low	—
Gardenia sp.	**gardenia**	GAR	damkarudu, kataranja (Oriya)	Z	755 (690-835)	47 (43-52)	—	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	yemane (And), gomari (Asm), gumhar (Ben), kasmar (Kol), khamari (Nep), gambhari (Oriya)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	—
Holarrhena antidysenterica Wall.	**kurchi**	KUR	kurdis (Hin), tuar (Kol), korei (Oriya)	Y	530 (450-610)	33 (28-38)	—	—	Moderate	—
Holoptelea integrifolia Planch.	**kanju**	KAN	anjan (Ben), chilbil, dhauranjo (Oriya)	Y	595 (480-655)	37 (30-41)	Low	b	Moderate	—
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bharkundi (Asm), baurang (Bihar), bhurkal (Hin), latikaram (Nep), kansa (Oriya)	Z	480 (400-545)	30 (25-34)	Low	c	Low	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	nabe (And), kuhimala, ruhimala (Asm), jial, jiga (Ben), doka (Kol), jeol (Nep), moi (Oriya)	X	575 (495-675)	[illegible] (31-42)	Low	e	Moderate	—

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Machilus gamblei King	**machilus**	MAC	kawala (Nep)	Z	515 (—)	32 (—)	Low	e	Moderate	—
Michelia baillonii Finet et Gagnep (Syn. *Talauma phellocarpa* King)	**talauma**	TAL	tita-sopa (Asm), tilsundi (Ben)	Z	575 (—)	36 (—)	—	—	Moderate	—
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	guri, kalam (Hin), hamsa-beti (Kol), mitukunia (Oriya)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	—
Morus lævigata Wall.	**bola**	BOL	bhola (Asm), kimbu (Ben & Nep)	Z	655 (—)	41 (—)	—	—	Moderate	—
Polyalthia sp.	**debdaru**	DEB	kutharia (Oriya)	Z	640 (450-850)	40 (28-53)	Low	—	Moderate	—
Pterospermum acerifolium Willd	**hathipaila**	HAT	hathipoila (Asm), bailo, muckhukenda (Oriya)	Y	595 (400-720)	47 (25-45)	Low	c	Moderate	—
‡*Sideroxylon longepetiolatum* King et Prain	**lambapatti**	LAM	lambapatti (And)	@Y	545 (—)	34 (—)	Low	a	Low	—
Swietenia sp.	**mahogany**	MAO	—	**Z	675 (—)	42 (—)	—	—	Moderate	—
Wrightia sp.	**dudhi**	DUD	pitakurbei, sanchi (Oriya)	Z	575 (—)	36 (—)	—	—	Low	—
			7. VENEERS AND PLYWOOD							
Acrocarpus fraxinifolius Wight	**mundani**	MUN	mandane (Nep)	Z	690 (600-800)	43 (29-50)	Low	c	Moderate	—
Adina cordifolia Hook. f.	**haldu**	HAL	tarakopa (Asm), rangkat (Ben), karam (Hin), kumbha (Kol), kuruma (Oriya)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	—
Ailanthus sp.	**goku**[1]	GOK	borpat (Asm), ghoranim, mahanim (Hin), mahalo (Oriya)	Z	415 (335-480)	26 (21-30)	Low	—	Low	—
Albizzia lebbeck Benth.	**kokko**	KOK	hirih (Asm), sirish (Ben), siris (Hin & Oriya)	X	640 (480-755)	40 (30-47)	High	c	Moderate	—
Albizzia odoratissima Benth.	**kala-siris**	KSI	hihand, joti-koroi (Asm), koroi (Ben), kiachalom (Kol)	Y	735 (595-1 010)	46 (37-63)	High	e	Moderate	—
Albizzia procera Benth.	**safed-siris**	SSI	sit (And), koroi (Asm & Ben), tenthra (Kol), dhala sirish (Oriya)	Y	640 (495-835)	40 (31-52)	Moderate	c	Moderate	—

**From plantations and road side avenues only.

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Alnus nepalensis Don	**alder**	ALD	utis (Nep)	+Z	370 (305-450)	23 (19-28)	—	—	Low	—
Amoora wallichii King	**amari**	AMA	lalchini (And), amur (Asm), lali (Ben & Nep)	Y	625 (495-735)	39 (31-46)	Moderate	—	Moderate	—
‡*Anthocephalus cadamba* Miq.	**kadam**	KAD	sanko (Kol), kadamba (Oriya)	X	495 (385-640)	31 (24-40)	Low	a	Low	—
Artocarpus chaplasha Roxb.	**chaplash**	CHP	taungpeine (And), cham, sam (Asm), chapalish (Ben), latore (Nep)	X	515 (320-675)	32 (20-42)	Moderate	d	Moderate	—
Boswellia serrata Roxb.	**salai**	SAA	salga (Hin)	X	575 (495-800)	36 (31-50)	Low	e	Low	—
Bucklandia populnea R. Br.	**pipli**	PIP	pipli (Ben)	+Z	595 (515-675)	37 (32-42)	—	—	Low	—
Canarium euphyllum Kurz	**white dhup**	WDH	dhup (And)	@X	430 (305-610)	27 (19-38)	Low	—	Low	—
Cedrela toona Roxb.	**toon**	TOO	jatipoma (Asm), tun (Hin), katangai (Kol), tuni (Nep), mahalimbo (Oriya)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	—
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	yin-mabin (And), boga-poma (Asm)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	—
Dalbergia sissoo Roxb.	**sissoo**	SIS	shisham (Hin)	Y	770 (690-850)	48 (43-53)	Moderate	e	Moderate	—
Dillenia sp.	**dillenia**	DIL	zinbyun (And), otenga (Asm), chalta, tartari (Ben), panchphal (Nep), rai (Oriya)	X	625 (560-705)	39 (35-44)	Low	—	Moderate	—
Dipterocarpus macrocarpus Vesque	**hollong**	HON	hollong (Asm)	*X	735 (640-880)	46 (40-55)	Low	a	Moderate	—
Dipterocarpus sp.	**gurjan**	GUR	garjan (Asm)	X	785 (705-960)	49 (44-60)	Low	b	Moderate	—
Fagara budrunga Roxb. (Syn. *Zanthoxylum budrunga* DC.)	**mullilam**	MUI	bajarnali (Asm), badrang, timur (Ben), morai (Oriya)	Y	735 (690-815)	46 (43-51)	—	—	Moderate	—
Garuga pinnata Roxb.	**garuga**	GAU	kharpat (Ben), armu (Kol), kathkusum, rajmoi (Oriya)	Y	610 (465-690)	38 (29-43)	Low	c	Moderate	—
Holoptelea integrifolia Planch.	**kanju**	KAN	anjan (Ben), chilbil, dhauranjo (Oriya)	Y	595 (480-655)	37 (30-41)	Low	b	Moderate	—
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bharkundi (Asm), baurang (Bihar), bhurkal (Hin), latikaram (Nep), kansa (Oriya)	Z	480 (400-545)	30 (25-34)	Low	c	Low	—

TABLE II CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, EAST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	nabe (And), kuhimala, ruhimala (Asm), jial, jiga (Ben), doka (Kol), jeol (Nep), moi (Oriya)	X	575 (495-675)	36 (31-42)	Low	e	Moderate	—
‡*Mangifera indica* Linn.	**mango**	MAN	am (Asm & Hin), uli (Kol), amba (Oriya)	X	690 (610-800)	43 (38-50)	Low	a	Low	—
Michelia sp.	**champ**	CHM	sopa (Asm), champa (Ben & Oriya)	X	495 (370-675)	31 (23-42)	Low	—	Moderate	—
Phœbe sp.	**bonsum**	BON	angari (Nep)	Z	530 (370-655)	33 (23-41)	Low	c	Moderate	—
Pterygota alata R. Br. (Syn. *Sterculia alata* Roxb.)	**narikel**	NAR	letkok (And), pahari (Asm), tula (Ben)	Y	560 (450-640)	35 (28-40)	—	—	Low	—
‡*Salmalia insignis* Schott & Endl. (Syn. *Bombax insigne* Wall.)	**didu**	DID	didu (And), simal (Hin)	@X	370 (175-545)	23 (11-34)	Low	a	Moderate	—
‡*Salmalia* sp. (Syn. *Bombax* sp.)	**didu**	DID	simal (Ben & Hin)	X	370 (175-545)	23 (11-34)	Low	a	Moderate	—
Schima wallichii Choisy	**chilauni**	CHL	gogra, makrisal (Asm)	X	655 (575-800)	41 (36-50)	Low	d	Moderate	—
Shorea assamica Dyer	**makai**	MAK	makai (Asm)	*Y	575 (480-690)	36 (30-43)	Low	c	Moderate	—
Syzygium cumini Skeels (Syn. *Eugenia jambolana* Lamk.)	**jaman**	JAM	jamuk (Asm), jam (Ben), kuda (Kol)	Y	785 (705-815)	49 (44-51)	Moderate	e	High	—
Terminalia bialata Steudel	**white chuglam (silver grey-wood)**	WCH (SGR)	safed chuglam (And)	@X	705 (495-815)	44 (31-51)	Low	e	Moderate	—
Terminalia myriocarpa Heurck et Muell. Arg.	**hollock**	HOL	panisaj (Nep)	X	610 (450-705)	38 (28-44)	Low	a	Moderate	—
Terminalia procera Roxb.	**white bombwe**	WBC	badam (And)	@X	610 (430-755)	38 (27-47)	Low	b	Moderate	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asan, asna, sain (Hin), hatana (Kol), pucca saj (Nep), sahaja (Oriya)	X	880 (610-995)	55 (38-62)	Moderate	b	High	—
Tetrameles nudiflora R. Br.	**maina**	MAI	thitpok (And), bhelu, tula (Asm), moina (Ben)	X	320 (—)	20 (—)	Low	a	Low	—
‡*Trewia nudiflora* Linn.	**gutel**	GUT	belkol (Asm), pitali (Ben), gara-loa (Kol), panigambhari (Oriya)	Z	450 (—)	28 (—)	Low	—	Low	—

TABLE III CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, CENTRE ZONE

(Clause 4)

NOTE — Mark (‡) against a species indicates matchwood.

BOTANICAL NAME	STANDARD TRADE NAME	ABBREVIATED SYMBOL	LOCAL NAMES	AVAILABILITY (*see* **4.1**)	AVERAGE WEIGHT AND RANGE OF WEIGHTS AT 12 PERCENT MOISTURE CONTENT (*see* **4.2**)		DURABILITY (*see* **4.3**)	TREATABILITY (*see* **4.4**)	REFRACTORINESS TO AIR SEASONING (*see* **4.5**)	COMPARATIVE STRENGTH COEFFICIENT ON THE BASIS OF TEAK AS 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
I. CONSTRUCTIONAL PURPOSES										
Acacia arabica Willd.	**babul**	BAB	babul (Mar)	X	785 (720-850)	49 (45-53)	Low	b	Moderate	105
Acacia catechu Willd.	**khair**	KHA	khair (Hin)	X	1 010 (880-1 170)	63 (55-73)	High	—	High	120
Albizzia lebbeck Benth.	**kokko**	KOK	siris (Hin), chichola (Mar)	Z	640 (480-755)	40 (30-47)	High	c	Moderate	90
Albizzia odoratissima Benth.	**kala-siris**	KSI	srisi (Mar), chichwa (MP)	Z	735 (595-1 010)	46 (37-63)	High	e	Moderate	120
Albizzia procera Benth.	**safed-siris**	SSI	kinhai (Mar), gurer (MP)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	85
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	bakli (Hin), dhaura (Mar & MP)	X	930 (785-1 105)	58 (49-69)	Low	e	High	95
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin), phanas (MP)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	75
Cassia fistula Linn.	**amaltas**	AMT	amaltas (Hin), bahawa (Mar)	Z	865 (735-1 025)	54 (46-64)	Moderate	—	High	110
Chloroxylon swietenia DC.	**satinwood**	SAT	ghiria (Bhopal), behra, bhirra (Mar & MP)	X	960 (835-1 105)	60 (52-69)	Low	—	High	110
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (MP)	Y	880 (800-945)	55 (50-59)	High	—	Moderate	90
Diospyros melanoxylon Roxb.	**ebony**	EBO	tendu, tumri (MP)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	75
Gmelina arborea Linn.	**gamari**	GAM	gumhar (Hin), siwan (MP)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	55
Grewia sp.	**dhaman**	DHA	phalsa (MP)	Z	770 (610-880)	48 (38-55)	Moderate	d	Moderate	110
Hardwickia binata Roxb.	**anjan**	ANJ	anjan (Mar), eppa (Tel)	Y	850 (735-1 025)	53 (46-64)	High	e	High	70
Lagerstræmia parviflora Roxb.	**lendi**	LEN	lendia senha (Mar), kaliasaja, lendia (MP)	X	755 (705-800)	47 (44-50)	Low	e	High	95
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	moyen (Mar), moyal, moven (MP)	X	575 (495-675)	36 (31-42)	Low	e	Moderate	50

TABLE III CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, CENTRE ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Madhuca indica Gmel. [Syn. *Bassia latifolia* Roxb.; *Madhuca latifolia* (Roxb.) Macbride]	**mahua**	MAU	mahua (Mar), mohwa (MP)	X	910 (755-1 040)	57 (47-65)	High	e	High	75
Manilkara sp. (Syn. *Mimusops* sp.)	**bullet-wood**	BUL	khirni (MP)	Z	895 (785-995)	56 (49-62)	High	—	High	125
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	tinsa, tiwas (MP)	Y	850 (800-915)	53 (50-57)	High	—	Moderate	80
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	bija (MP)	X	800 (720-880)	50 (45-55)	High	e	Moderate	100
Schleichera oleosa Oken. (Syn. *Schleichera trijuga* Willd.	**kusum**	KUS	kusum (Mar)	Z	1 105 (1 060-1 185)	69 (66-74)	Low	a	High	140
Shorea robusta Gærtn. f.	**sal**	SAL	sal (Hin)	X	815 (625-930)	51 (39-58)	High	e	High	120
Stereospermum sp.	**padri**	PAD	padar (MP)	Y	720 (560-975)	45 (35-61)	Low	—	Moderate	85
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	jamun (MP)	Y	815 (705-930)	51 (44-58)	Moderate	e	High	95
Tectona grandis Linn. f.	**teak**	TEA	sagwan (Hin), sagon (MP)	X	625 (495-755)	39 (31-47)	High	e	Moderate	100
Terminalia arjuna W & A.	**arjun**	ARJ	koha (Mar), kohu, kowa (MP)	X	815 (640-995)	51 (40-62)	Moderate	b	Moderate	70
Terminalia bellirica Roxb.	**bahera**	BAH	bahera (Mar)	X	815 (675-895)	51 (42-56)	Low	b	Moderate	105
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asan, asna, sain (Hin), ain, sadar, saj (MP)	X	880 (610-995)	55 (38-62)	Moderate	b	High	100
Xylia xylocarpa Taub.	**irul**	IRU	suria (Mar), sauriya (MP)	Z	850 (755-1 010)	53 (47-63)	High	c	High	105
			2. FURNITURE AND CABINET MAKING							
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Mar), karam (MP)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	95
Albizzia lebbeck Benth.	**kokko**	KOK	siris (Hin), chichola (Mar)	Z	640 (480-755)	40 (30-47)	High	c	Moderate	95
Albizzia odoratissima Benth.	**kala-siris**	KSI	srisi (Mar), chichwa (MP)	Z	735 (595-1 010)	46 (37-63)	High	e	Moderate	140
Albizzia procera Benth.	**safed-siris**	SSI	kinhai (Mar), gurer (MP)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	95

TABLE III CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, CENTRE ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin), phanas (MP)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	90
Chloroxylon swietenia DC.	**satinwood**	SAT	behra, bhirra, ghiria (Mar & MP)	X	960 (835-1 105)	60 (52-69)	Low	—	High	130
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (MP)	Y	880 (800-945)	55 (50-59)	High	—	Moderate	115
Diospyros melanoxylon Roxb.	**ebony**	EBO	tendu, tumri (MP)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	95
Gmelina arborea Linn.	**gamari**	GAM	gumhar (Hin), siwan (MP)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	75
Holoptelea integrifolia Planch.	**kanju**	KAN	papara (Mar), chilwal, chirol, karanji (MP)	Z	595 (480-655)	37 (30-41)	Low	b	Moderate	80
Lagerstræmia parviflora Roxb.	**lendi**	LEN	lendia senha (Mar), kaliasaja, lendia (MP)	X	755 (705-800)	47 (44-50)	Low	c	High	95
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	90
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam (MP)	X	655 (595-720)	41 (37-45)	Low	b	Moderate	85
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	bija (MP)	X	800 (720-880)	50 (45-55)	High	c	Moderate	100
Tectona grandis Linn. f.	**teak**	TEA	sagwan (Hin), sagon (MP)	X	625 (495-755)	39 (31-47)	High	c	Moderate	100
			3. LIGHT PACKING CASES							
‡*Ailanthus excelsa* Roxb.	**maharukh**	MAH	maharukh (Mar)	Z	415 (335-480)	26 (21-30)	—	—	Low	70
Boswellia serrata Roxb.	**salai**	SAA	salai (Mar), salga, salia (MP)	X	575 (495-800)	36 (31-50)	Low	c	Low	85
Ficus sp.	**figs**	FIG	gular (MP)	Z	465 (—)	29 (—)	—	—	Low	—
Gmelina arborea Linn.	**gamari**	GAM	gumhar (Hin), siwan (MP)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Holoptelea integrifolia Planch.	**kanju**	KAJ	papara (Mar), chilwal, chirol, karanji (MP)	Z	595 (480-655)	37 (30-41)	Low	b	Moderate	95
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bhorsal (Mar), bhawar-mal, bhorsal, bhurker (MP)	Z	480 (400-545)	30 (25-34)	Low	c	Low	75
Kydia calycina Roxb.	**pula**	PUL	bhendi (Mar), barranga (MP)	Y	385 (—)	24 (—)	—	—	Low	—

TABLE III CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, CENTRE ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	moyen (Mar), moyal, moyen (MP)	X	575 (495-675)	36 (31-42)	Low	e	Moderate	75
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	110
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	semal (Mar), semur (MP)	X	385 (255-530)	24 (16-33)	Low	a	Low	70
			4. HEAVY PACKING CASES (for packing machinery and similar stores)							
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Mar), karam (MP)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	105
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin), phanas (MP)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	95
Garuga pinnata Roxb.	**garuga**	GAU	kakad (Mar), ghoghar (MP)	X	610 (465-690)	38 (29-43)	Low	e	Moderate	95
Gmelina arborea Linn.	**gamari**	GAM	gumhar (Hin), siwan (MP)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Lagerstraemia parviflora Roxb.	**lendi**	LEN	lendia senha (Mar), kalia-saja, lendia (MP)	X	755 (705-800)	47 (44-50)	Low	e	High	110
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	110
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	jamun (MP)	Y	815 (705-930)	51 (44-58)	Moderate	e	High	110
Tectona grandis Linn. f.	**teak**	TEA	sagwan (Hin), sagon (MP)	X	625 (495-755)	39 (43-47)	High	e	Moderate	100
Terminalia bellirica Roxb.	**bahera**	BAH	bahera (Mar)	X	815 (675-895)	51 (42-56)	Low	b	Moderate	—
			5. AGRICULTURAL IMPLEMENTS AND TOOL HANDLES							
Acacia arabica Willd.	**babul**	BAB	babul (Mar)	X	785 (720-850)	49 (45-53)	Low	b	Moderate	135
Acacia catechu Willd.	**khair**	KHA	khair (Hin)	X	1 010 (880-1 170)	63 (55-73)	High	—	High	130
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	bakli (Hin), dhaura (Mar & MP)	X	930 (785-1 105)	58 (49-69)	Low	e	High	120
Anogeissus pendula Edgew.	**kardahi**	KAH	kardahi (MP)	Y	945 (815-1 090)	59 (51-68)	Low	—	High	130

TABLE III CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, CENTRE ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dalbergia latifolia Roxb.	**rosewood (black-wood)**	ROS	shisham (MP)	Y	880 (800-945)	55 (50-59)	High	—	Moderate	110
Diospyros melanoxylon Roxb.	**ebony**	EBO	tendu, tumri (MP)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	90
Grewia tiliæfolia Vahl.	**dhaman**	DHA	phalsa (MP)	Z	785 (610-880)	49 (38-55)	Moderate	d	Moderate	125
Lagerstræmia parviflora Roxb.	**lendi**	LEN	lendia senha (Mar), kaliasaja, lendia (MP)	X	755 (705-800)	47 (44-50)	Low	e	High	100
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	tinsa, tiwas (MP)	Y	850 (800-915)	53 (50-57)	High	—	Moderate	95
Tamarindus indica Linn.	**imli**	IML	imli (Mar)	Z	915 (—)	57 (—)	—	—	Moderate	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asan, asna, sain (Hin), ain, sadar, saj (MP)	X	880 (610-995)	55 (38-62)	Moderate	b	High	110
Zizyphus mauritiana Lamk. (Syn. *Zizyphus jujuba* Lamk.)	**ber**	BER	ber (Mar)	Z	705 (—)	44 (—)	—	—	Moderate	—
			6. TURNERY ARTICLES AND TOYS							
Acacia arabica Willd.	**babul**	BAB	babul (Mar)	X	785 (720-850)	49 (45-53)	Low	b	Moderate	—
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Mar), karam (MP)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	—
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	kathal (Hin), phanas (MP)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	—
Chloroxylon swietenia DC.	**satinwood**	SAT	behra, bhirra, ghiria (Mar & MP)	X	960 (835-1 105)	60 (52-69)	Low	—	High	—
Dalbergia latifolia Roxb.	**rosewood (black-wood)**	ROS	shisham (MP)	Y	880 (800-945)	55 (50-59)	High	—	Moderate	—
Diospyros melanoxylon Roxb.	**ebony**	EBO	tendu, tumri (MP)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	—
Gardenia sp.	**gardenia**	GAR	dikamali, papri (MP)	Y	755 (690-835)	47 (43-52)	—	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	gumhar (Hin), siwan (MP)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	—
Holoptelea integrifolia Planch.	**kanju**	KAN	papara (Mar), chilwal, chirol, karanji (MP)	Z	595 (480-655)	37 (30-41)	Low	b	Moderate	—

TABLE III CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, CENTRE ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bhorsal (Mar), bhawarmal, bhorsal, bhurker (MP)	Z	480 (400-545)	30 (25-34)	Low	c	Low	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	moyen (Mar), moyal, moyen (MP)	X	575 (495-675)	36 (31-42)	Low	e	Moderate	—
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam (MP)	X	655 (595-720)	41 (37-45)	Low	b	Moderate	—
Schrebera swietenioides Roxb.	**mokha**	MOK	mokha (Mar), ghanto (MP)	Z	815 (—)	51 (—)	—	—	Moderate	—
Tamarindus indica Linn.	**imli**	IML	imli (Mar)	Z	915 (—)	57 (—)	—	—	Moderate	—
Tectona grandis Linn. f.	**teak**	TEA	sagwan (Hin), sagon (MP)	X	625 (495-755)	39 (31-47)	High	e	Moderate	—
Wrightia sp.	**dudhi**	DUD	dudhai (MP)	Y	575 (—)	36 (—)	—	—	Low	—
			7. VENEERS AND PLYWOOD							
Adina cordifolia Hook. f.	**haldu**	HAL	haldu (Mar), karam (MP)	X	690 (480-785)	43 (30-49)	Low	a	Moderate	—
‡*Ailanthus excelsa* Roxb.	**maharukh**	MAH	maharukh (Mar)	Z	415 (335-480)	26 (21-30)	—	—	Low	—
Albizzia lebbeck Benth.	**kokko**	KOK	siris (Hin), chichola (Mar)	Z	640 (480-755)	40 (30-47)	High	c	Moderate	—
Albizzia odoratissima Benth.	**kala-siris**	KSI	srisi (Mar), chichwa (MP)	Z	735 (595-1 010)	46 (37-63)	High	e	Moderate	—
Albizzia procera Benth.	**safed-siris**	SSI	kinhai (Mar), gurer (MP)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	—
Boswellia serrata Roxb.	**salai**	SAA	salai (Mar), salga, salia (MP)	X	575 (495-800)	36 (31-50)	Low	e	Low	—
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (MP)	Y	880 (800-945)	55 (50-59)	High	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	gumhar (Hin), siwan (MP)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	—

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TABLE III CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, CENTRE ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Holoptelea integrifolia Planch.	**kanju**	KAN	papara (Mar), chilwal, chirol, karanji (MP)	Z	595 (480-655)	37 (30-41)	Low	b	Moderate	—
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bhorsal (Mar), bhawarmal, bhorsal, bhurker (MP)	Z	480 (400-545)	30 (25-34)	Low	c	Low	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	moyen (Mar), moyal, moyen (MP)	X	560 (495-675)	36 (31-42)	Low	e	Moderate	—
‡*Mangifera indica* Linn.	**mango**	MAN	am (Hin), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	—
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	semal (Mar), semur (MP)	X	385 (255-530)	24 (16-33)	Low	a	Low	—
Syzygium cumini Skeels (Syn. *Eugenia jambolana* Lamk.)	**jaman**	JAM	jamun (MP)	X	785 (705-815)	49 (44-51)	Moderate	e	High	—
Tectona grandis Linn. f.	**teak**	TEA	sagwan (Hin), sagon (MP)	X	625 (495-755)	39 (31-47)	High	e	Moderate	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	asan, asna, sain (Hin), ain, sadar, saj (MP)	X	880 (610-995)	55 (38-62)	Moderate	b	High	—

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE

(Clause 4)

NOTE — Mark (‡) against a species indicates matchwood.

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. CONSTRUCTIONAL PURPOSES										
Acacia arabica Willd.	**babul**	BAB	baval, bawal (Guj), fali, jali, mashwel (Kan),	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	105
Acacia catechu Willd.	**khair**	KHA	khair (Hin), kath (Kan)	Y	1 010 (880-1 170)	63 (55-73)	High	—	High	120
Acacia sundra Willd.	**lal-khair**	LKH	lal-khair (Mar)	Z	1 120 (1 040-1 235)	70 (65-77)	—	—	High	150
Albizzia lebbeck Benth.	**kokko**	KOK	sirsul (Kan), chichola, siras, siris (Mar)	Z	640 (480-755)	40 (30-47)	High	c	Moderate	90
Albizzia odoratissima Benth.	**kala-siris**	KSI	kalio-siras (Guj), bil-kambi, godhunchi (Kan)	Z	735 (595-1 010)	46 (37-63)	High	c	Moderate	120
Albizzia procera Benth.	**safed-siris**	SSI	karangro (Guj), bellati (Kan), kilai, kinhai (Mar)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	85
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	dhardo, dhauro, dhavado, dhavdo (Guj & Mar), dindal (Kan)	Z	930 (785-1 105)	58 (49-69)	Low	e	High	95
Aphanamixis polystachya (Wall.) Parker (Syn. *Amoora rohituka* Wight et Arn.)	**pitraj**	PIT	rakta-rohida (Mar)	Y	690 (575-770)	43 (36-48)	High	—	Moderate	90
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	phanas (Guj & Mar), halasu, halsin (Kan)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	75
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu, hebhulsina (Kan), pathphanas (Mar)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	90
Bischofia javanica Blume	**uriam**	URI	nilimara (Kan), bok (Mar)	Z	755 (595-865)	47 (37-54)	Low	e	High	75
Calophyllum sp.	**poon**	POO	surhonni (Kan)	Z	655 (480-815)	41 (30-51)	Moderate	e	Moderate	85
Cassia fistula Linn.	**amaltas**	AMT	garmalo, gurmala (Guj), kakke (Kan), bahaya, bhava (Mar)	Z	865 (735-1 025)	54 (46-64)	Moderate	—	High	110
Casuarina equisetifolia Linn.	**casuarina**	CAS	saru (Guj & Mar), calimara, galimara (Kan), suru (Mar)	Y	850 (785-930)	53 (49-58)	Low	c	High	90

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Cedrela toona Roxb.	**toon**	TOO	biligandhagiri (Kan), devdari (Mar)	Z	515 (385-610)	32 (24-38)	Low	c	Moderate	60
Chloroxylon swietenia DC.	**satinwood**	SAT	mashwal (Kan), billu (Mar)	Z	960 (835-1 105)	60 (52-69)	Low	—	High	110
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	lal-devdari (Mar)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	80
Cinnamomum sp.	**cinnamon**	CIN	risni (Kan), dalchini (Mar)	Z	655 (545-770)	41 (34-48)	Low	—	Moderate	90
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (Guj & Mar), biti (Kan)	Y	770 (640-880)	48 (40-55)	High	—	Moderate	90
Dillenia sp.	**dillenia**	DIL	kanagola (Kan), karmal (Mar)	Y	625 (560-705)	39 (35-44)	Low	—	Moderate	80
Diospyros melanoxylon Roxb.	**ebony**	EBO	tamruj, timbervo, timru (Guj), balai (Kan), temburni (Mar)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	75
Dipterocarpus indicus Bedd.	**gurjan**	GUR	challane, kalpine (Kan)	Z	785 (705-900)	49 (44-56)	Moderate	b	Moderate	105
Gmelina arborea Linn.	**gamari**	GAM	shivani, shiwan (Guj & Mar), kulimara (Kan)	Z	515 (415-610)	32 (26-38)	High	—	Moderate	55
Grewia sp.	**dhaman**	DHA	dadsal, thadsal (Guj & Kan)	Y	785 (610-880)	49 (38-55)	Moderate	d	Moderate	110
Hardwickia binata Roxb.	**anjan**	ANJ	karachi (Kan)	Z	850 (735-1 025)	53 (46-64)	High	e	High	70
Hopea parviflora Bedd.	**hopea**	HOP	kiralobogi (Kan), kalhoni (Mar)	Z	945 (755-1 120)	59 (47-70)	High	e	High	120
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	nana (Guj & Mar), nandi (Kan)	Y	675 (610-815)	42 (38-51)	High	e	Moderate	95
Lagerstræmia parviflora Roxb.	**lendi**	LEN	bondaro (Guj), channangi (Kan)	Z	755 (705-800)	47 (44-50)	Low	e	High	95
Lagerstræmia speciosa Pers. (Syn. *Lagerstræmia flosreginæ* Retz.)	**jarul**	JAR	holedasal (Kan), bondara, taman (Mar)	Z	625 (495-785)	39 (31-49)	Moderate	e	Moderate	80
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	modhal, monia (Guj), gojjal (Kan), modal, moyee (Mar)	Y	575 (495-675)	36 (31-42)	Low	e	Moderate	50
Madhuca sp. (Syn. *Bassia* sp.)	**mahua**	MAU	mahuda (Guj), ippi (Kan), mohwa (Mar)	Z	915 (755-1 040)	57 (47-65)	High	e	High	75
Manilkara sp. (Syn. *Mimusops* sp.)	**bullet-wood**	BUL	borsali, rayan (Guj), mugali (Kan), ranjana, wovali (Mar)	Z	895 (785-995)	56 (49-62)	High	—	High	125

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Miliusa tomentosa (Roxb.) J. Sinclair (Syn. *Saccopetalum tomentosum* Hook. f. et Th.)	**hoom**	HOO	humb (Guj & Mar), woomb (Kan)	Z	735 (655-835)	46 (41-52)	Low	—	Moderate	95
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	telus (Dangs), tanach (Guj), karimuttal (Kan), tewas (Mar)	Z	850 (800-915)	53 (50-57)	High	—	Moderate	80
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	beo (Guj), honne (Kan), bibla (Mar)	Y	800 (720-880)	50 (45-55)	High	c	Moderate	100
Schleichera oleosa Oken. (Syn. *Schleichera trijuga* Willd.)	**kusum**	KUS	sagada, sagodi (Kan), hosimb, kusumb (Mar)	Z	1 105 (1 060-1 185)	69 (66-74)	Low	a	High	140
Stereospermum sp.	**padri**	PAD	kandol (Guj), genasing, mukarti (Kan), kursing, pudoli (Mar)	Z	720 (560-975)	45 (35-61)	Low	—	Moderate	85
Strychnos nux-vomica Linn.	**kuchla**	KUC	kara (Mar)	Z	880 (—)	55 (—)	—	—	High	—
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	jambu (Guj), nerlu (Kan), jambul (Mar)	Y	850 (705-1 025)	53 (44-64)	Moderate	e	High	95
Tectona grandis Linn. f.	**teak**	TEA	sag (Guj & Mar), sagwan (Hin), tegu (Kan)	X	640 (515-785)	40 (32-49)	High	e	Moderate	100
Terminalia bellirica Roxb.	**bahera**	BAH	baheda (Guj), tare, tari (Kan), vehela (Mar)	Y	815 (675-895)	51 (42-56)	Low	b	Moderate	105
Terminalia paniculata Roth	**kindal**	KIN	honal (Kan), kindal (Mar)	Y	770 (655-880)	48 (41-55)	Moderate	c	High	95
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	karimatti, matti (Kan), ain, sajad (Mar)	X	895 (770-995)	56 (48-62)	Moderate	b	High	100
Vitex sp.	**milla**	MIL	nagod (Guj), nerole (Kan)	Z	930 (655-1 060)	58 (41-66)	High	—	High	115
Xylia xylocarpa Taub.	**irul**	IRU	jambe (Kan), jamba (Mar)	Y	850 (755-1 010)	53 (47-63)	High	e	High	105
			2. FURNITURE AND CABINET MAKING							
Adina cordifolia Hook. f.	**haldu**	HAL	haladwar, haldwan (Guj), heddi, yetagal (Kan), hedu (Mar)	Y	705 (655-785)	44 (41-49)	Low	a	Moderate	95
Albizzia lebbeck Benth.	**kokko**	KOK	sirsul (Kan), chichola, siras, siris (Mar)	Z	640 (480-755)	40 (30-47)	High	c	Moderate	95
Albizzia odoratissima Benth.	**kala-siris**	KSI	kalio-siras (Guj), bilkambi, godhunchi (Kan)	Z	735 (595-1 010)	46 (37-63)	High	e	Moderate	140

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Albizzia procera Benth.	**safed-siris**	SSI	karangro (Guj), bellati (Kan), kilai, kinhai (Mar)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	95
Aphanamixis polystachya (Wall.) Parker (Syn. *Amoora rohituka* Wight et Arn.)	**pëtraj**	PIT	rakta-rohida (Mar)	Y	690 (575-770)	43 (36-48)	High	—	Moderate	95
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	phanas (Guj & Mar), halasu, halsin (Kan)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	90
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu, hebhulsina (Kan), pathphanas (Mar)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	95
Calophyllum sp.	**poon**	POO	surhonni (Kan)	Z	655 (480-815)	41 (30-51)	Moderate	e	Moderate	85
Cedrela toona Roxb.	**toon**	TOO	biligandhagiri (Kan), devdari (Mar)	Z	515 (385-610)	32 (24-38)	Low	c	Moderate	65
Chloroxylon swietenia DC.	**satinwood**	SAT	mashwal (Kan), billu (Mar)	Z	960 (835-1 105)	60 (52-69)	Low	—	High	130
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	lal-devdari (Mar)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	90
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (Guj & Mar), biti (Kan)	Y	770 (640-880)	48 (40-55)	High	—	Moderate	115
Dillenia sp.	**dillenia**	DIL	kanagola (Kan), karmal (Mar)	Y	625 (560-705)	39 (35-44)	Low	—	Moderate	80
Diospyros melanoxylon Roxb.	**ebony**	EBO	tamruj, timbervo, timru (Guj), balai (Kan), temburni (Mar)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	95
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	bilidevdari (Kan)	Z	720 (595-800)	45 (37-50)	High	—	Moderate	90
Gmelina arborea Linn.	**gamari**	GAM	shivani, shiwan (Guj & Mar), kulimara (Kan)	Z	515 (415-610)	32 (26-38)	High	—	Moderate	75
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	nana (Guj & Mar), nandi (Kan)	Y	675 (610-815)	42 (38-51)	High	e	Moderate	90
Lagerstræmia parviflora Roxb.	**lendi**	LEN	bondaro (Guj), channangi (Kan)	Z	755 (705-800)	47 (44-50)	Low	e	High	95
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	90
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam (Guj), kadawar (Kan), kaddam, kalamb (Mar)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	85

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Ougeinia oojeinensis (Roxb.) Hochreut (Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	telus (Dangs), tanach (Guj), karimuttal (Kan), tewas (Mar)	Z	850 (800-915)	53 (50-57)	High	—	Moderate	105
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	beo (Guj), honne (Kan), bibla (Mar)	Y	800 (720-880)	50 (45-55)	High	e	Moderate	100
Stereospermum sp.	**padri**	PAD	kandol (Guj), genasing, mukarti (Kan), kursing, pudoli (Mar)	Z	720 (560-975)	45 (35-61)	Low	—	Moderate	95
Tectona grandis Linn. f.	**teak**	TEA	sag (Guj & Mar), sagwan (Hin), tegu (Kan)	X	640 (515-785)	40 (32-49)	High	c	Moderate	100
Terminalia paniculata Roth	**kindal**	KIN	honal (Kan), kindal (Mar)	Y	770 (655-880)	48 (41-55)	Moderate	c	High	100
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	karimatti, matti (Kan), ain, sajad (Mar)	X	895 (770-995)	56 (48-62)	Moderate	b	High	110
			3. LIGHT PACKING CASES							
‡*Ailanthus excelsa* Roxb.	**maharukh**	MAH	aduso (Guj), helbeva (Kan), maharukh (Mar)	Z	415 (335-480)	26 (21-30)	—	—	Low	70
‡*Alstonia scholaris* R. Br.	**chatian**	CHT	saptaparni, satwin (Mar)	Z	415 (350-465)	26 (22-29)	Low	—	Low	70
Boswellia serrata Roxb.	**salai**	SAA	saledi (Guj), salai (Mar)	Y	575 (495-800)	36 (31-50)	Low	e	Low	85
‡*Canarium strictum* Roxb.	**white dhup**	WDH	raldhup (Kan), gugul (Mar)	Z	640 (480-755)	40 (30-47)	Low	—	Low	95
‡*Elæocarpus tuberculatus* Roxb.	**rudrak**	RUD	bhutali, kadambola (Kan)	Z	480 (400-575)	30 (25-36)	—	—	Low	75
Gmelina arborea Linn.	**gamari**	GAM	kulimara (Kan), shivani, shiwan (Mar)	Z	515 (415-610)	32 (26-38)	High	—	Moderate	85
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bogi (Kan), bhoga, bhorsal (Mar)	Z	480 (400-545)	30 (25-34)	Low	c	Low	75
Kydia calycina Roxb.	**pula**	PUL	bhendi, warrang (Kan & Mar)	Y	385 (—)	24 (—)	—	—	Low	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	modhal, monia (Guj), gojjal (Kan), modal, moyee (Mar)	Y	575 (495-675)	36 (31-42)	Low	e	Moderate	75
‡*Lophopetalum wightianum* Arn.	**banati**	BAN	balpale, benate (Kan)	Z	450 (385-495)	28 (24-31)	Low	—	Low	70
‡*Machilus macrantha* Nees	**machilus**	MAC	gulmav, gulum (Kan), poswa (Mar)	Z	530 (430-625)	33 (27-39)	High	—	Low	90
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	110

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Polyalthia sp.	**debdaru**	DEB	gauri, murgouri (Kan)	Z	640 (450-850)	40 (28-53)	Low	—	Moderate	85
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	simalo (Guj), bural, sauri (Kan), sawar (Mar)	Y	385 (255-530)	24 (16-33)	Low	a	Low	70
‡*Spondias* sp.	**amra**	AMR	amte (Kan), ambada, ranamboda (Mar)	Z	450 (—)	28 (—)	Low	—	Low	—
Tetrameles nudiflora R. Br.	**maina**	MAI	kapsin (Kan & Mar), jermal (Mar)	Z	320 (—)	20 (—)	Low	a	Low	—
‡*Trewia nudiflora* Linn.	**gutel**	GUT	katkumbal (Kan), petani, petari (Mar)	Z	450 (—)	28 (—)	Low	—	Low	—
Vateria indica Linn.	**vellapine**	VEL	gugle, maddidhupa, paini (Kan)	Z	595 (480-690)	37 (30-43)	Low	e	Low	80
			4. HEAVY PACKING CASES (for packing machinery and similar stores)							
Adina cordifolia Hook. f.	**haldu**	HAL	haladwar, haldwan (Guj), heddi, yetagal, (Kan), hedu (Mar)	Y	705 (655-785)	44 (41-49)	Low	a	Moderate	105
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	phanas (Guj & Mar), halasu, halsin (Kan)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	95
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu, hebhulsina (Kan), pathphanas (Mar)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	95
Bischofia javanica Blume	**uriam**	URI	nilimara (Kan), bok (Mar)	Z	755 (595-865)	47 (37-54)	Low	e	High	95
Calophyllum sp.	**poon**	POO	surhonni (Kan)	Z	655 (480-815)	41 (30-51)	Moderate	e	Moderate	100
Cedrela toona Roxb.	**toon**	TOO	biligandhagiri (Kan), devdari (Mar)	Z	515 (385-610)	32 (24-38)	Low	e	Moderate	80
Dillenia sp.	**dillenia**	DIL	kanagola (Kan), karmal (Mar)	Y	625 (560-705)	39 (35-44)	Low	—	Moderate	90
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	bilidevdari (Kan)	Z	720 (595-800)	45 (37-50)	High	—	Moderate	105
Garuga pinnata Roxb.	**garuga**	GAU	kakad, karapti (Guj), kurak (Kan), kakad (Mar)	X	610 (465-690)	38 (29-43)	Low	e	Moderate	95
Gmelina arborea Linn.	**gamari**	GAM	kulimara (Kan), shivani, shiwan (Mar)	Z	515 (415-610)	32 (26-38)	High	—	Moderate	85

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Lagerstræmia lanceolata Wall (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	nana (Guj & Mar), nandi (Kan)	Y	675 (610-815)	42 (38-51)	High	c	Moderate	105
Lagerstræmia parviflora Roxb.	**lendi**	LEN	bondaro (Guj), channangi (Kan)	Z	755 (705-800)	47 (44-50)	Low	c	High	110
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	110
Stereospermum sp.	**padri**	PAD	kandol (Guj), genasing, mukarti (Kan), kursing, pudoli (Mar)	Z	720 (560-975)	45 (35-61)	Low	—	Moderate	120
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	jambu (Guj), nerlu (Kan), jambul (Mar)	Y	850 (705-1 025)	53 (44-64)	Moderate	c	High	110
Tectona grandis Linn. f.	**teak**	TEA	sag (Guj & Mar), sagwan (Hin), tegu (Kan)	X	640 (515-785)	40 (32-49)	High	c	Moderate	100
Terminalia bellirica Roxb.	**bahera**	BAH	baheda (Guj), tare, tari (Kan), vehela (Mar)	Y	815 (675-895)	51 (42-56)	Low	b	Moderate	—
5. AGRICULTURAL IMPLEMENTS AND TOOL HANDLES										
Acacia arabica Willd.	**babul**	BAB	baval, bawal (Guj), fali, jali, mashwel (Kan)	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	135
Acacia catechu Willd.	**khair**	KHA	khair (Hin), kath (Kan)	Y	1 010 (880-1 170)	63 (55-73)	High	—	High	130
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	dhardo, dhauro, dhavado, dhavdo (Guj & Mar), dindal (Kan)	Z	930 (785-1 105)	58 (49-69)	Low	c	High	120
Careya arborea Roxb.	**kumbi**	KUM	kaval (Kan), kumbhi, kumbia (Mar)	Z	785 (560-915)	49 (35-57)	High	—	High	95
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (Guj & Mar), biti (Kan)	Y	770 (640-880)	48 (40-55)	High	—	Moderate	110
Diospyros melanoxylon Roxb.	**ebony**	EBO	tamruj, timbervo, timru (Guj), balai (Kan), temburni (Mar)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	90
Grewia sp	**dhaman**	DHA	dadsal, thadsal (Kan)	Y	785 (610-880)	49 (38-55)	Moderate	d	Moderate	125
Lagerstræmia parviflora Roxb.	**lendi**	LEN	bondaro (Guj), channangi (Kan)	Z	755 (705-800)	47 (44-50)	Low	c	High	100
Ougeinia oojeinensis (Roxb.) Hochreut Syn. *Ougeinia dalbergioides* Benth.)	**sandan**	SAD	telus (Dangs), tanach (Guj), karimuttal (Kan), tewas (Mar)	Z	850 (800-915)	53 (50-57)	High	—	Moderate	95
Schleichera oleosa Oken. Syn. *Schleichera trijuga* Willd.)	**kusum**	KUS	sagada, sagodi (Kan), hosimb, kusumb (Mar)	Z	1 105 (1 060-1 185)	69 (66-74)	Low	a	High	155

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Strychnos nux-vomica Linn.	**kuchla**	KUC	kara (Mar)	Z	880 (—)	55 (—)	—	—	High	—
Thespesia populnea Sol.	**bhendi**	BHE	hoovarsu (Kan), bhendi (Mar)	Z	770 (640-895)	48 (40-56)	—	—	Moderate	130
			6. TURNERY ARTICLES AND TOYS							
Acacia arabica Willd.	**babul**	BAB	baval, bawal (Guj), fali, jali, mashwel (Kan)	Y	785 (720-900)	49 (45-56)	Low	b	Moderate	—
Adina cordifolia Hook. f.	**haldu**	HAL	haladwar, haldwan (Guj), heddi, yetagal (Kan), hedu (Mar)	Y	705 (655-785)	44 (41-49)	Low	a	Moderate	—
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	phanas (Guj & Mar), halasu, halsin (Kan)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	—
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu, hebbulsina (Kan), pathphanas (Mar)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	—
Cedrela toona Roxb.	**toon**	TOO	biligandhagiri (Kan), devdari (Mar)	Z	515 (385-610)	32 (24-38)	Low	c	Moderate	—
Chloroxylon swietenia DC.	**satinwood**	SAT	mashwal (Kan), billu (Mar)	Z	960 (835-1 105)	60 (52-69)	Low	—	High	—
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	lal-devdari (Mar)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	—
Cinnamomum sp.	**cinnamon**	CIN	risni (Kan), dalchini (Mar)	Z	655 (545-770)	41 (34-48)	Low	—	Moderate	—
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (Guj & Mar), biti (Kan)	Y	770 (640-880)	48 (40-55)	High	—	Moderate	—
Diospyros melanoxylon Roxb.	**ebony**	EBO	tamruj, timbervo, timru (Guj), balai (Kan), temburni (Mar)	X	835 (655-1 105)	52 (41-69)	Low	—	Moderate	—
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	bilidevdari (Kan)	Z	720 (595-800)	45 (37-50)	High	—	Moderate	—
Fagara budrunga Roxb. [Syn. *Zanthoxylum rhetsa* (Roxb.) DC.]	**mullilam**	MUI	jamin (Kan), tirphul, triphal (Mar)	Z	735 (690-815)	46 (43-51)	Moderate	—	Moderate	—
Gardenia sp.	**gardenia**	GAR	papur (Mar)	Z	755 (690-835)	47 (43-52)	—	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	shivani, shiwan (Guj & Mar), kulimara (Kan)	Z	515 (415-610)	32 (26-38)	High	—	Moderate	—
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	nandi (Kan), nana (Mar)	Y	675 (610-815)	42 (38-51)	High	c	Moderate	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	modhal, moaia (Guj), gojjal (Kan), modal, moyce (Mar)	Y	575 (495-675)	36 (31-42)	Low	c	Moderate	—

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Miliusa tomentosa (Roxb.) J. Sinclair (Syn. *Saccopetalum tomentosum* Hook. f. et Th.)	**hoom**	HOO	humb (Guj & Mar), woomb (Kan)	Z	735 (655-835)	46 (41-52)	Low	—	Moderate	—
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kaim**	KAI	kalam (Guj), kadawar (Kan), kaddam, kalamb (Mar)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	—
Santalum album Linn.	**sandalwood**	SAN	gandha (Kan), chandan (Mar)	Z	915 (—)	57 (—)	—	—	Moderate	—
			7. VENEERS AND PLYWOOD							
Adina cordifolia Hook. f.	**haldu**	HAL	haladwar, haldwan, (Guj), heddi, yetagal, (Kan), hedu (Mar)	Y	705 (655-785)	44 (41-49)	Low	a	Moderate	—
‡*Ailanthus excelsa* Roxb.	**maharukh**	MAH	aduso (Guj), helbeva (Kan), maharukh (Mar)	Z	415 (335-480)	26 (21-30)	—	—	Low	—
Albizzia lebbeck Benth.	**kokko**	KOK	sirsul (Kan), chichola, siras, siris (Mar)	Z	640 (480-755)	40 (30-47)	High	c	Moderate	—
Albizzia odoratissima Benth.	**kala-siris**	KSI	kalio-siras (Guj), bilkambi, godhunchi (Kan)	Z	735 (595-1 010)	46 (37-63)	High	e	Moderate	—
Albizzia procera Benth.	**safed-siris**	SSI	karangro (Guj), bellati (Kan), kilai, kinhai (Mar)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	—
‡*Alstonia scholaris* R. Br.	**chatian**	CHT	saptaparni, satwin (Mar)	Z	415 (350-465)	26 (22-29)	Low	—	Low	—
Amoora sp.	**amari**	AMA	—	Y	625 (495-735)	39 (31-46)	—	—	Moderate	—
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	phanas (Guj & Mar), halasu, halsin (Kan)	Z	595 (415-735)	37 (26-46)	High	—	Moderate	—
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu, hebbulsina (Kan), pathphanas (Mar)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	—
Boswellia serrata Roxb.	**salai**	SAA	saledi (Guj), salai (Mar)	Y	575 (495-800)	36 (31-50)	Low	e	Low	—
‡*Canarium strictum* Roxb.	**white dhup**	WDH	raldhup (Kan), gugul (Mar)	Z	640 (480-755)	40 (30-47)	Low	—	Low	—
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	lal-devdari (Mar)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	—
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	shisham (Guj & Mar), biti (Kan)	Y	770 (640-880)	48 (40-55)	High	—	Moderate	—
Dillenia sp.	**dillenia**	DIL	kanagola (Kan), karmal (Mar)	Y	625 (560-705)	39 (35-44)	Low	—	Moderate	—

TABLE IV CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, WEST ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dipterocarpus indicus Bedd.	**gurjan**	GUR	challane, kalpine (Kan)	Z	785 (705-900)	49 (44-56)	Moderate	b	Moderate	—
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	bilidevdari (Kan)	Z	720 (595-800)	45 (37-50)	High	—	Moderate	—
Fagara budrunga Roxb. [Syn. *Zanthoxylum rhetsa* (Roxb.) DC.]	**mullilam**	MUI	jamin (Kan), tirphul, triphal (Mar)	Z	735 (690-815)	46 (43-51)	Moderate	—	Moderate	—
Garuga pinnata Roxb.	**garuga**	GAU	kakad, karapti (Guj), kurak (Kan), kakad (Mar)	X	610 (465-690)	38 (29-43)	Low	e	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	kulimara (Kan), shivani, shiwan (Mar)	Z	515 (415-610)	32 (26-38)	High	—	Moderate	—
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	bogi (Kan), bhoga, bhorsal (Mar)	Z	480 (400-545)	30 (25-34)	Low	c	Low	—
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	nana (Guj & Mar), nandi (Kan)	Y	675 (610-815)	42 (38-51)	High	e	Moderate	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	modhal, monia (Guj), gojjal (Kan), modal, moyee (Mar)	Y	575 (495-675)	36 (31-42)	Low	e	Moderate	—
‡*Lophopetalum wightianum* Arn.	**banati**	BAN	balpale, benate (Kan)	Z	450 (385-495)	28 (24-31)	Low	—	Low	—
‡*Machilus macrantha* Nees	**machilus**	MAC	gulmav, gulum (Kan), poswa (Mar)	Z	530 (430-625)	33 (27-39)	High	—	Low	—
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), amba (Mar)	Y	690 (610-800)	43 (38-50)	Low	a	Low	—
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	simalo (Guj), bural, sauri (Kan), sawar (Mar)	Y	385 (255-530)	24 (16-33)	Low	a	Low	—
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	jambu (Guj), nerlu (Kan), jambul (Mar)	Y	850 (705-1025)	53 (44-64)	Moderate	e	High	—
Tectona grandis Linn. f.	**teak**	TEA	sag (Guj & Mar), sagwan (Hin), tegu (Kan)	X	640 (515-785)	40 (32-49)	High	e	Moderate	—
Terminalia paniculata Roth	**kindal**	KIN	honal (Kan), kindal (Mar)	Y	770 (655-880)	48 (41-55)	Moderate	c	High	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	karimatti, matti (Kan), ain, sajad (Mar)	X	895 (770-995)	56 (48-62)	Moderate	b	High	—
Tetrameles nudiflra R. Br.	**maina**	MAI	kapsin (Kan & Mar), jermal (Mar)	Z	320 (—)	20 (—)	Low	a	Low	—
‡*Trewia nudiflora* Linn.	**gutel**	GUT	katkumbal (Kan), petani, petari (Mar)	Z	450 (—)	28 (—)	Low	—	Low	—
Vateria indica Linn.	**vellapine**	VEL	gugle, maddidhupa, paini (Kan)	Z	595 (480-690)	37 (30-43)	Low	e	Low	—

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE

(*Clause* 4)

NOTE — Mark (‡) against a species indicates matchwood.

BOTANICAL NAME	STANDARD TRADE NAME	ABBREVIATED SYMBOL	LOCAL NAMES	AVAILABILITY (*see* 4.1)	AVERAGE WEIGHT AND RANGE OF WEIGHTS AT 12 PERCENT MOISTURE CONTENT (*see* 4.2)		DURABILITY (*see* 4.3)	TREATABILITY (*see* 4.4)	REFRACTORINESS TO AIR SEASONING (*see* 4.5)	COMPARATIVE STRENGTH COEFFICIENT ON THE BASIS OF TEAK AS 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. CONSTRUCTIONAL PURPOSES										
Acacia arabica Willd.	**babul**	BAB	karijali (Kan), karuvelam (Mal), karuvai (Tam), nallatumma (Tel)	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	105
Acacia catechu Willd.	**khair**	KHA	karangalli (Tam), sandra (Tel)	Z	1 010 (880-1 170)	63 (55-73)	High	—	High	120
Acacia sundra Willd.	**lal-khair**	LKH	—	Z	1 120 (1 040-1 235)	70 (65-77)	—	—	High	150
Acrocarpus fraxinifolius Wight	**mundani**	MUN	belanji (Kan), kuranyan, malaveppu (Mal), malamkonnai (Tam)	Z	690 (465-800)	43 (29-50)	Low	c	Moderate	100
Adina cordifolia Hook. f.	**haldu**	HAL	yettaga (Kan), bimbu (Mal), kadambari, manjakadambai (Tam), bandaru (Tel)	X	705 (655-785)	44 (41-49)	Low	a	Moderate	80
Aglaia sp.	**aglaia**	AGL	karangil (Mal), chokkala (Tam)	Z	850 (610-960)	53 (38-60)	—	—	High	105
Albizzia lebbeck Benth.	**kokko**	KOK	bage (Kan), vaka (Mal), vagai (Tam), dirisinam (Tel)	Y	640 (480-755)	40 (30-47)	High	c	Moderate	90
Albizzia odoratissima Benth.	**kala-siris**	KSI	chelavagai (Kan), karuvaka (Mal), karuvagai (Tam), chinduga (Tel)	Y	735 (595-1 010)	46 (37-63)	High	e	Moderate	120
Albizzia procera Benth.	**safed-siris**	SSI	salvagai (Kan), vellavaka (Mal), velvagai (Tam), tella chinduga (Tel)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	85
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	bejjal, dinduga (Kan), vellanava (Mal), vellanagai (Tam), chirumanu (Tel)	X	975 (865-1 105)	61 (54-69)	Low	e	High	95
Aphanamixis polystachya (Wall.) Parker (Syn. *Amoora rohituka* Wight et Arn.)	**pitraj**	PIT	mullumuttaga (Kan), karagil (Mal), vekkali, vellakongu (Tam)	Z	690 (575-770)	43 (36-48)	High	—	Moderate	90
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	alasua, halasu (Kan), pilavu (Mal), pila (Tam), panasa (Tel)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	75
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu (Kan), ainipilavu (Mal), ainipila, anjili (Tam)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	90

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Artocarpus lakoocha Roxb.	**lakooch**	LAK	vate (Kan)	Z	640 (—)	40 (—)	High	—	Moderate	—
Bischofia javanica Blume	**uriam**	URI	cholavenga (Mal), cholavengai, malachadayan (Tam)	Z	755 (595-865)	47 (37-54)	Low	e	High	75
Bridelia retusa Spreng.	**kasi**	KAS	guje, komangi (Kan), mulluvenga (Mal), mulvengai (Tam), koramanu (Tel)	Z	595 (515-675)	37 (32-42)	Moderate	e	Moderate	75
Calophyllum sp.	**poon**	POO	goja, salhonne, surahonne (Kan), punna (Mal), kathupinnai (Tam)	Y	655 (480-815)	41 (30-51)	Moderate	e	Moderate	85
Casuarina equisetifolia Linn.	**casuarina**	CAS	kesarike (Kan), chulamaram (Mal), savukku (Tam), chavuku, saravu (Tel)	X	850 (785-930)	53 (49-58)	Low	c	High	90
Cedrela toona Roxb.	**toon**	TOO	gandhagarige (Kan), chuvannagil (Mal), malavembu (Tam), galimanu (Tel)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	60
Chloroxylon swietenia DC.	**satinwood**	SAT	muragalu (Kan), porasu (Tam), bilga, billu (Tel)	Y	960 (835-1 105)	60 (52-69)	Low	—	High	110
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	urulu (Kan), malaveppu (Mal), madagirivembu (Tam)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	90
Cullenia excelsa Wight	**karani**	KAR	mulluchakka (Mal), ainipila, vedipila (Tam)	Y	640 (560-720)	40 (35-45)	Low	b	Low	100
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	biti (Kan), veeti (Mal), itti (Tam), jittegi (Tel)	X	770 (640-880)	48 (40-55)	High	—	Moderate	80
Diospyros sp.	**ebony**	EBO	tupra (Kan), thumbi (Tam), tuki, tumiki (Tel)	Y	835 (655-1 105)	52 (41-69)	Low	—	Moderate	75
Dipterocarpus indicus Bedd.	**gurjan**	GUR	yennemara (Coorg), kalpayini, kalpine (Mal), enney, vellayini (Tam)	X	785 (705-900)	49 (44-56)	Moderate	b	Moderate	105
Eucalyptus globulus Labill.	**blue gum**	BGU	karpooramaram (Tam)	Y	850 (690-960)	53 (43-60)	High	e	High	120
Gluta travancorica Bedd.	**gluta**	GLU	devdari (Kan), chenkurunchi (Mal), senkurunji (Tam)	Z	720 (595-900)	45 (37-56)	High	—	High	115
Gmelina arborea Linn.	**gamari**	GAM	kumulu, shivane (Kan), kumilu (Mal), kumil (Tam), gummadi (Tel)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	55

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* **4.1**)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* **4.2**)		Durability (*see* **4.3**)	Treatability (*see* **4.4**)	Refractoriness to Air Seasoning (*see* **4.5**)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* **4.6**)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Grewia tiliæfolia Vahl.	**dhaman**	DHA	thadasalu (Kan), chadachi (Mal), thadachi (Tam), peddajana (Tel)	Y	785 (610-880)	49 (38-55)	Moderate	d	Moderate	120
Hardwickia binata Roxb.	**anjan**	ANJ	karacha, karachi (Kan), acha (Mal & Tam), yepi (Tel)	Y	850 (735-1 025)	53 (46-64)	High	e	High	70
Hopea sp.	**hopea**	HOP	bogimar (Kan), irumbogam (Mal), vellaigongu (Tam)	Y	995 (755-1 170)	62 (47-73)	High	e	High	120
Kingiodendron pinnatum (Roxb.) Harms. (Syn. *Hardwickia pinnata* Roxb.)	**piney**	PIN	yennazmara (Kan), chukkana-payini (Mal), kolavu (Tam)	Y	625 (530-705)	39 (33-44)	High	e	Moderate	85
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	bendeku, nandi (Kan), venteak (Mal), bethekku, venthekhu (Tam)	X	610 (480-705)	38 (30-44)	High	e	Moderate	95
Lagerstræmia parviflora Roxb.	**lendi**	LEN	channangi (Kan & Tel), nanagu (Mal), peikadukkai (Tam)	Z	755 (705-800)	47 (44-50)	Low	e	High	95
Lagerstræmia speciosa Pers. (Syn. *Lagerstræmia flosreginæ* Retz.)	**jarul**	JAR	nirmaruthu (Mal), poomaruthu, pumarudu (Tam)	Z	625 (495-785)	39 (31-49)	Moderate	e	Moderate	80
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	geru (Kan), annakara uthi (Mal), kalasan, odiyamaram (Tam), gumpini (Tel)	Y	575 (495-675)	36 (31-42)	Low	e	Moderate	50
Madhuca sp. (Syn. *Bassia* sp.)	**mahua**	MAU	sannaippe (Kan), nattuillupai (Tam), ippa (Tel)	Y	915 (755-1 040)	57 (47-65)	High	e	High	75
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), mamaram (Tam), mamidi (Tel)	X	690 (610-800)	43 (38-50)	Low	a	Low	75
Manilkara sp. (Syn. *Mimusops* sp.)	**bullet-wood**	BUL	bakula, mugali (Kan), elengi (Mal), nanupala (Tem), pala (Tel)	Y	895 (785-995)	56 (49-62)	High	—	High	125
Mesua ferrea Linn.	**mesua**	MES	nagasampigi (Kan), churuli (Mal), nangal, nangu (Tam), nagakesari (Tel)	X	1 135 (1 010-1 300)	71 (63-81)	High	e	High	150
Palaquium ellipticum (Dalz.) Engler (Syn. *Dichopsis elliptica* Benth.)	**pali**	PAL	hadasale (Kan), palvadinjan (Tam)	X	640 (495-770)	40 (31-48)	Moderate	e	Moderate	95
Pentameuron indicum Bedd.	**ballagi**	BAL	bailige, balagi (Kan), vayal (Mal), putangali (Tam)	Y	1 135 (1 010-1 235)	71 (63-77)	Moderate	e	High	145

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	honne (Kan), venga (Mal), vengai (Tam), yegi (Tel)	Y	800 (720-880)	50 (45-55)	High	e	Moderate	100
Pterocarpus santalinus Linn. f.	**red sanders**	RSA	rakthachandanam (Kan & Mal), chemmaram (Tam), yerra-sandanam (Tel)	Y	1 105 (900-1 265)	69 (56-79)	—	—	High	125
Schleichera oleosa Oken. (Syn. *Schleichera trijuga* Willd.)	**kusum**	KUS	sagade (Kan), puvam (Mal & Tam), pulusari (Tel)	Y	1 105 (1 060-1 185)	69 (66-74)	Low	a	High	140
Stereospermum sp.	**padri**	PAD	kaladri, pathiri (Kan), padiri (Mal & Tam), isikirasi (Tel)	Y	720 (560-975)	45 (35-61)	Low	—	Moderate	85
Strychnos nux-vomica Linn.	**kuchla**	KUC	kasan, kasarika (Kan), kanjiram (Mal), yetti (Tam), mushti (Tel)	X	880 (—)	55 (—)	—	—	High	—
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	nerlu, nerula (Kan), naval (Mal & Tam), neredu (Tel)	Y	850 (705-1 025)	53 (44-64)	Moderate	e	High	95
Tamarindus indica Linn.	**imli**	IML	hunse (Kan), puli (Tam), chintha (Tel)	X	915 (—)	57 (—)	—	—	Moderate	65
Tectona grandis Linn. f.	**teak**	TEA	saguvain, thega, thekinamra (Kan), theku (Mal & Tam), teku (Tel)	X	690 (560-850)	43 (35-53)	High	e	Moderate	100
Terminalia arjuna W & A.	**arjun**	ARJ	bilimaddi, thoramatti (Kan), vellilava (Mal), vellamaruthu (Tam), tellamaddi (Tel)	Y	815 (640-995)	51 (40-62)	Moderate	b	Moderate	70
Terminalia chebula Retz.	**myrabolan**	MYR	allale (Kan), pulincakku (Mal), colaippakku, illagucam, kadukkai (Tam), karakkai (Tel)	Y	945 (755-1 140)	59 (47-71)	Low	c	High	105
Terminalia paniculata Roth	**kindal**	KIN	honagalu, honal, hunal (Kan), pillamarudu (Mal & Tam), nallapulaga (Tel)	X	800 (720-900)	50 (45-56)	Moderate	e	High	95
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	banappu (Kan), karumarudu (Mal), karimarudu, matti (Tam), nallamaddi (Tel)	X	895 (770-995)	56 (48-62)	Moderate	b	High	100
Vitex altissima Linn. f.	**milla**	MIL	naviladi, nevaladi (Kan), mvladi (Mal), mayiladi (Tam), nemiliyadugu (Tel)	Z	930 (655-1 060)	58 (41-66)	High	—	High	115

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Xylia xylocarpa Taub.	**irul**	IRU	jambe, tirwa (Kan), irul (Tam), konda tangedu (Tel)	X	850 (755-1 010)	53 (47-63)	High	e	High	105
			2. FURNITURE AND CABINET MAKING							
Acrocarpus fraxinifolius Wight	**mundani**	MUN	belanji (Kan), kuranyan, malaveppu (Mal), malamkonnai (Tam)	Z	690 (465-800)	43 (29-50)	Low	c	Moderate	100
Adina cordifolia Hook. f.	**haldu**	HAL	yettaga (Kan), bimbu (Mal), kadambari, manjakadambai (Tam), bandaru (Tel)	X	705 (655-785)	44 (41-49)	Low	a	Moderate	95
Albizzia lebbeck Benth.	**kokko**	KOK	bage (Kan), vaka (Mal), vagai (Tam), dirisinum (Tel)	Y	640 (515-755)	40 (32-47)	High	c	Moderate	95
Albizzia odoratissima Benth.	**kala-siris**	KSI	chelavagai (Kan), karuvaka (Mal), karuvagai (Tam), chinduga (Tel)	Y	735 (595-1 010)	46 (37-63)	High	c	Moderate	140
Albizzia procera Benth.	**safed-siris**	SSI	salvagai (Kan), vellavaka (Mal), velvagai (Tam), tellachinduga (Tel)	Z	640 (495-835)	40 (31-52)	Moderate	c	Moderate	95
Aphanamixis polystachya (Wall.) Parker (Syn. *Amoora rohituka* Wight et Arn.)	**pitraj**	PIT	mullumuttaga (Kan), karagil (Mal), vekkali, vellakongu (Tam)	Z	690 (575-770)	43 (36-48)	High	—	Moderate	95
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	alasua, halasu (Kan), pilavu (Mal), pila (Tam), panasa (Tel)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	90
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu (Kan), ainipilavu (Mal), ainipila, anjili (Tam)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	95
Calophyllum sp.	**poon**	POO	goja, salhonne, surahonne (Kan), punna (Mal), kathupinnai (Tam)	Y	655 (480-815)	41 (30-51)	Moderate	e	Moderate	85
Cedrela toona Roxb.	**toon**	TOO	ganchagarige (Kan), chuvannagil (Mal), malavembu (Tam), galimanu (Tel)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	65
Chloroxylon swietenia DC.	**satinwood**	SAT	muragalu (Kan), porasu (Tam), bilga, billu (Tel)	Y	960 (835-1 105)	60 (52-69)	Low	—	High	130
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	urulu (Kan), malaveppu (Mal), madagirivembu (Tam)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	90

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dalbergia latifolia Roxb.	**rose wood (blackwood)**	ROS	biti (Kan), veeti (Mal), itti (Tam), jittegi (Tel)	X	770 (640-880)	48 (40-55)	High	—	Moderate	115
Diospyros sp.	**ebony**	EBO	tupra (Kan), thumbi (Tam), tuki, tumiki (Tel)	Y	835 (655-1 105)	52 (41-69)	Low	—	Moderate	95
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	vella-gil (Mal & Tam)	Y	720 (595-800)	45 (37-50)	High	—	Moderate	90
Fagara budrunga Roxb. [Syn. *Zanthoxylum rhetsa* (Roxb.) DC.]	**mullilam**	MUI	muttilam (Tam), rhetsa (Tel)	Z	735 (690-815)	46 (43-51)	Moderate	—	Moderate	100
Gluta travancorica Bedd.	**gluta**	GLU	devdari (Kan), chenkurunchi (Mal), senkurunji (Tam)	Z	720 (595-900)	45 (37-56)	High	—	High	110
Gmelina arborea Linn.	**gamari**	GAM	kumulu, shivane (Kan), kumilu (Mal), kumil (Tam), gummadi (Tel)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	75
Kingiodendron pinnatum (Roxb.) Harms. (Syn. *Hardwickia pinnata* Roxb.)	**piney**	PIN	yennamara (Kan), chukkanna-payini (Mal), kolavu (Tam)	Y	625 (530-705)	39 (33-44)	High	e	Moderate	90
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	bendeku, nandi (Kan), venteak (Mal), bethekku, venthekhu (Tam)	X	610 (480-705)	38 (30-44)	High	e	Moderate	90
Lagerstræmia parviflora Roxb.	**lendi**	LEN	channangi (Kan & Tel), nanagu (Mal), peikadukkai (Tam)	Z	755 (705-800)	47 (44-50)	Low	e	High	95
‡*Lophopetalum wightianum* Arn.	**banati**	BAN	balpale (Kan), karuka, venkatavu (Mal), vengottai (Tam)	Z	450 (385-495)	28 (24-31)	Low	—	Low	60
Michelia champaca Linn.	**champ**	CHM	sampige (Kan), chambegam, chempakam, shanbagam (Tam), champakam (Tel)	Z	495 (400-595)	31 (25-37)	Low	e	Moderate	70
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	**kalm**	KAI	kadamba, vimbusirakadambu (Mal), nedunarai, nirkadambai (Tam)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	85
Palaquium ellipticum (Dalz.) Engler (Syn. *Dichopsis elliptica* Benth.)	**pali**	PAL	hadasale (Kan), palvadinjan (Tam)	X	640 (495-770)	40 (31-48)	Moderate	e	Moderate	85
Pterocarpus marsupium Roxb.	**bijasal**	BIJ	honne (Kan), venga (Mal), vengai (Tam), yegi (Tel)	Y	800 (720-880)	50 (45-55)	High	e	Moderate	100

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Pterocarpus santalinus Linn. f.	**red sanders**	RSA	rakhtachandanam (Kan & Mal), chemmaram (Tam), yerra-sandanam (Tel)	Y	1 105 (900-1 265)	69 (56-79)	—	—	High	165
Stereospermum sp.	**padri**	PAD	kaladri, pathiri (Kan), padiri (Mal & Tam), isikirasi (Tel)	Y	720 (560-975)	45 (35-61)	Low	—	Moderate	95
Swietenia sp.	**mahogany**	MAO	—	Z	655 (—)	41 (—)	—	—	Moderate	—
Tectona grandis Linn. f.	**teak**	TEA	saguvain, thega, thekinamra (Kan), theku (Mal & Tam), teku (Tel)	X	690 (560-850)	43 (35-53)	High	e	Moderate	100
Terminalia paniculata Roth	**kindal**	KIN	honagalu, honal, hunal (Kan), pillamarudu (Mal & Tam), nallapulaga (Tel)	X	800 (720-900)	50 (45-56)	Moderate	c	High	100
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	banappu (Kan), karumarudu (Mal), karimarudu, matti (Tam), nallamaddi (Tel)	X	895 (770-995)	56 (48-62)	Moderate	b	High	110
			3. LIGHT PACKING CASES							
‡*Ailanthus excelsa* Roxb. / *Ailanthus malabarica* DC.	**maharukh**	MAH	halmaddi, maddidhupa (Kan) / peenari, perumaram, pongiliyam (Mal), mattipal, pimaram (Tam), peddamanu (Tel)	Y	415 (335-480)	26 (21-30)	—	—	Low	70
Alstonia scholaris R. Br.	**chatian**	CHT	ezhilampala, mukampala (Mal), elalaipalai, mukkampalei, palegaruda (Tam)	Y	415 (350-465)	26 (22-29)	Low	—	Low	70
‡*Anthocephalus cadamba* Miq.	**kadam**	KAD	attuthekku, kadambam (Mal), kola aiyila, vellakadam (Tam)	Z	495 (385-640)	31 (24-40)	Low	a	Low	85
Antiaris toxicaria Leschen.	**upas**	UPA	arcianjili (Mal), maravari, peymaram (Tam)	Z	320 (—)	20 (—)	—	—	Low	—
‡*Canarium strictum* Roxb.	**white dhup**	WDH	kunthirikka-payin (Mal), karapu, karum, karunkungiliam (Tam)	Y	640 (480-755)	40 (30-47)	Low	—	Low	95
Cullenia excelsa Wight	**karani**	KAR	mulluchakka (Mal), ainipila, vedipila (Tam)	Y	640 (560-720)	40 (35-45)	Low	b	Low	100

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Elæocarpus tuberculatus Roxb.	**rudrak**	RUD	kadambola (Kan), ammakaram, kodavasi (Mal), rudraksham (Tam)	Z	480 (400-575)	30 (25-36)	—	—	Low	75
‡*Evodia lunur-ankenda* Merr. (Syn. *Evodia roxburghiana* Benth.)	**kambli**	KAB	kattu chempakkam (Tam)	Y	495 (—)	31 (—)	—	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	kumulu, shivane (Kan), kumilu (Mal), kumil (Tam), gumnadi (Tel)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Holoptelea integrifolia Planch.	**kanju**	KAN	thapsi (Kan), aval (Mal), ayili (Tam)	Z	595 (480-655)	37 (30-41)	Low	b	Moderate	95
Knema attenuata Warb. (Syn. *Myristica attenuata* Wall.)	**jathikai**	JAT	chennelli, chorapanu (Mal), jattikkai (Tam)	Z	515 (415-595)	32 (26-37)	Low	—	Low	75
Kydia calycina Roxb.	**pula**	PUL	velukku (Mal), bendi, vattakannu, vendai (Tam)	Y	385 (—)	24 (—)	—	—	Low	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	geru (Kan), annakara, uthi (Mal), kalasan, odiyamaram (Tam), gumpini (Tel)	Y	575 (495-675)	36 (31-42)	Low	e	Moderate	75
‡*Lophopetalum wightianum* Arn.	**banati**	BAN	balpale (Kan), karuka, venkatavu (Mal), vengottai (Tam)	Z	450 (385-495)	28 (24-31)	Low	—	Low	70
‡*Machilus macrantha* Nees	**machilus**	MAC	gulamavo, gulmao (Kan), uravu (Mal), kolamavu, kolarmavu (Tam)	Y	530 (430-625)	33 (27-39)	High	—	Low	90
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), mamaram (Tam), mamidi (Tel)	X	690 (610-800)	43 (38-50)	Low	a	Low	110
Melia composita Willd. (Syn. *Melia dubia* Hiern)	**malabar neem**	MNE	kattu vepou (Mal), mallay vembu (Tam)	Z	450	28	—	—	Moderate	—
Pterygota alata R. Br. (Syn. *Sterculia alata* Roxb.)	**narikel**	NAR	anathondi, pothondi (Mal), anaithondi (Tam)	Z	560 (450-640)	35 (28-40)	—	—	Low	90
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	ilavu, poola (Mal), ilavam (Tam), buruga (Tel)	Y	385 (255-530)	24 (16-33)	Low	a	Low	70
‡*Sterculia villosa* Roxb.	**udal**	UDA	muruthon (Mal), vakkainar (Tam)	Y	270 (—)	17 (—)	—	—	Low	—
Tetrameles nudiflora R. Br.	**maina**	MAI	bolur (Kan), chini (Mal & Tam)	X	320 (—)	20 (—)	Low	a	Low	—

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
‡*Trewia nudiflora* Linn.	**gutel**	GUT	naikumoil, pamambara-kumbil, thavala (Mal), kumbala (Tam)	Y	450 (—)	28 (—)	Low	—	Low	—
Vateria indica Linn.	**vellapine**	VEL	dhup, kaidhupa (Kan), payin, vellakunthirikam (Mal), vellaikundrikam, vellapayini (Tam)	X	595 (480-690)	37 (30-43)	Low	e	Low	80
			4. HEAVY PACKING CASES (for packing machinery and similar stores)							
Acrocarpus fraxinifolius Wight	**mundani**	MUN	belanji (Kan), kuranyan, malaveddu (Mal), malamkonnai (Tam)	Z	690 (465-800)	43 (29-50)	Low	c	Moderate	110
Adina cordifolia Hook. f.	**haldu**	HAL	yettaga (Kan), bimbu (Mal), kadambari, manjakadambai (Tam), bandaru (Tel)	X	705 (655-785)	44 (41-49)	Low	a	Moderate	105
Albizzia chinensis (Osbeck) Merr. (Syn. *Albizzia stipulata* Boivin)	**siris**	SIR	kalbage (Kan), pottugaka (Mal), nirusil, vilivagai (Tam), bandichinduga (Tel)	Z	400 (—)	25 (—)	Low	c	Moderate	—
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	alasua, halasu (Kan), pilavu (Mal), pila (Tam), panasa (Tel)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	95
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu (Kan), ainipilavu (Mal), ainipila, anjili (Tam)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	95
Bischofia javanica Blume	**uriam**	URI	cholavenga (Mal), cholavengai, malachadayan (Tam)	Z	755 (595-865)	47 (37-54)	Low	e	High	95
Calophyllum sp.	**poon**	POO	goja, salhonne, surahonne (Kan), punna (Mal), kathupinnai (Tam)	Y	655 (480-815)	41 (30-51)	Moderate	e	Moderate	100
Cedrela toona Roxb.	**toon**	TOO	gandhagarige (Kan), chuvannagil (Mal), malavembu (Tam), galimanu (Tel)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	80
Dipterocarpus indicus Bedd.	**gurjan**	GUR	yennemara (Coorg), kalpayini, kalpine (Mal), enney, vellayini (Tam)	X	785 (705-895)	49 (44-56)	Moderate	b	Moderate	105
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	vella-gil (Mal & Tam)	Y	720 (595-800)	45 (37-50)	High	—	Moderate	105

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fagara budrunga Roxb. [Syn. *Zanthoxylum rhetsa* (Roxb.) DC.]	**mullilam**	MUI	muttilam (Tam), rhetsa (Tel)	Z	735 (690-815)	46 (43-51)	Moderate	—	Moderate	110
Garuga pinnata Roxb.	**garuga**	GAU	godda, halabolagi (Kan), annakara (Mal), karu-vembu (Tam)	Z	610 (465-690)	38 (29-43)	Low	e	Moderate	95
Gmelina arborea Linn.	**gamari**	GAM	kumulu, shivane (Kan), kumilu (Mal), kumil (Tam), gummadi (Tel)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	85
Kingiodendron pinnatum (Roxb.) Harms. (Syn. *Hardwickia pinnata* Roxb.)	**piney**	PIN	yennamara (Kan), chuk-kanna-payini (Mal), kolavu (Tam)	Y	625 (530-705)	39 (33-44)	High	e	Moderate	100
Knema attenuata Warb. (Syn. *Myristica attenuata* Wall.)	**jathikai**	JAT	chennelli, chorapanu (Mal), jattikkai (Tam)	Z	515 (415-595)	32 (26-37)	Low	—	Low	75
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	bendeku, nandi (Kan), venteak (Mal), bethe-kku, venthekhu (Tam)	X	610 (480-705)	38 (30-44)	High	e	Moderate	105
Lagerstræmia parviflora Roxb.	**lendi**	LEN	channangi (Kan & Tel), nanagu (Mal), peikadu-kkai (Tam)	Z	755 (705-800)	47 (44-50)	Low	e	High	110
Lagerstræmia speciosa Pers. (Syn. *Lagerstræmia flos-reginæ* Retz.)	**jarul**	JAR	nirmaruthu (Mal), poo-maruthu, pumarudu (Tam)	Z	625 (495-785)	39 (31-49)	Moderate	e	Moderate	100
Lophopetalum wightianum Arn.	**banati**	BAN	balpale (Kan), karuka, venkatavu (Mal), ven-kottai (Tam)	Z	450 (385-495)	28 (24-31)	Low	—	Low	70
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), mamaram (Tam), mamidi (Tel)	X	690 (610-800)	43 (38-50)	Low	a	Low	110
Palaquium ellipticum (Dalz.) Engler (Syn. *Dichopsis elliptica* Benth.)	**pali**	PAL	hadasale (Kan), palva-dinjan (Tam)	X	640 (495-770)	40 (31-48)	Moderate	e	Moderate	100
Polyalthia sp.	**debdaru**	DEB	narelai (Mal), nedunarai (Tam)	Z	640 (450-850)	40 (28-53)	Low	—	Moderate	85
Stereospermum sp.	**padri**	PAD	kaladri, pathiri (Kan), padiri (Mal & Tam), isikirasi (Tel)	Y	720 (560-975)	45 (35-61)	Low	—	Moderate	120
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	nerlu, nerula (Kan), naval (Mal & Tam), neredu (Tel)	Y	850 (705-1 025)	53 (44-64)	Moderate	e	High	110
Tectona grandis Linn. f.	**teak**	TEA	saguvain, thega, thekin-amra (Kan), theku (Mal & Tam), teku (Tel)	X	690 (560-850)	43 (35-53)	High	e	Moderate	100

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Terminalia bellirica Roxb.	**bahera**	BAH	thare (Kan), thanni (Mal), tani (Tam & Tel)	X	815 (675-895)	51 (42-56)	Low	b	Moderate	—
			5. AGRICULTURAL IMPLEMENTS AND TOOL HANDLES							
Acacia arabica Willd.	**babul**	BAB	karijali (Kan), karuvelam (Mal), karuvai (Tam), nalla tumma (Tel)	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	135
Acacia catechu Willd.	**khair**	KHA	karangalli (Tam), sandra (Tel)	Z	1 010 (880-1 170)	63 (55-73)	High	—	High	130
Anogeissus latifolia Wall.	**axlewood (bakli)**	AXL	bejjal, dinduga (Kan), vellanava (Mal), vellanagai (Tam), chirumanu (Tel)	X	975 (865-1 105)	61 (54-69)	Low	c	High	110
Bridelia retusa Spreng.	**kasi**	KAS	guje, komangi (Kan), mulluvenga (Mal), mulvengai (Tam), koramanu (Tel)	Z	595 (515-675)	37 (32-42)	Moderate	c	Moderate	75
Chloroxylon swietenia DC.	**satinwood**	SAT	muragalu (Kan), porasu (Tam), bilga, billu (Tel)	Y	960 (835-1 105)	60 (52-69)	Low	—	High	120
Dalbergia latifolia Roxb.	**rosewood (black-wood)**	ROS	biti (Kan), veeti (Mal), itti (Tam), jittegi (Tel)	X	770 (640-880)	48 (40-55)	High	—	Moderate	110
Diospyros sp.	**ebony**	EBO	tupra (Kan), thumbi (Tam), tuki, tumiki (Tel)	Y	835 (655-1 105)	52 (41-69)	Low	—	Moderate	105
Emblica officinalis Gærtn. (Syn. *Phyllanthus emblica* Linn.)	**amla**	AML	nelli (Kan & Tam), usiri (Tel)	Y	800 (—)	50 (—)	—	—	High	—
Grewia tiliæfolia Vahl.	**dhaman**	DHA	thadasalu (Kan), chadachi (Mal), thadachi (Tam), peddajana (Tel)	Y	785 (610-880)	49 (38-55)	Moderate	d	Moderate	125
Lagerstræmia parviflora Roxb.	**lendi**	LEN	channangi (Kan & Tel), nanagu (Mal), peikadukkai (Tam)	Z	755 (705-800)	47 (44-50)	Low	c	High	100
Manilkara sp. (Syn. *Mimusops* sp.)	**bullet-wood**	BUL	bakula, mugali (Kan), elengi (Mal), nanupala (Tam), pala (Tel)	Y	895 (785-995)	56 (49-62)	High	—	High	135
Schleichera oleosa Oken. (Syn. *Schleichera trijuga* Willd.)	**kusum**	KUS	sagade (Kan), puvam (Mal & Tam), pulusari (Tel)	Y	1 105 (1 060-1 185)	69 (66-74)	Low	a	High	155

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Strychnos nux-vomica Linn.	**kuchla**	KUC	kasan, kasarika (Kan), kanjiram (Mal), yetti (Tam), mushti (Tel)	X	880 (—)	55 (—)	—	—	High	—
Strychnos potatorum Linn. f.	**chilla**	CHA	tettancottai (Tam), indupa (Tel)	Z	800 (—)	50 (—)	—	—	High	—
Tamarindus indica Linn.	**imli**	IML	hunse (Kan), puli (Tam), chintha (Tel)	X	915 (—)	57 (—)	—	—	Moderate	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	banappu (Kan), karumarudu (Mal), karimarudu, matti (Tam), nallamaddi (Tel)	X	895 (770-995)	56 (48-62)	Moderate	b	High	110
Xylia xylocarpa Taub	**irul**	IRU	jambe, tirwa (Kan), irul (Tam), konda tangedu (Tel)	X	850 (755-1 010)	53 (47-63)	High	e	High	110
			6. TURNERY ARTICLES							
Acacia arabica Willd.	**babul**	BAB	karijali (Kan), karuvelam (Mal), karuvai (Tam), nalla tumma (Tel)	Y	785 (720-850)	49 (45-53)	Low	b	Moderate	—
Adina cordifolia Hook. f.	**haldu**	HAL	yettaga (Kan), bimbu (Mal), kadambari, manjakadambai (Tam), bandaru (Tel)	X	705 (655-785)	44 (41-49)	Low	a	Moderate	—
Albizzia chinensis (Osbeck) Merr. (Syn. *Albizzia stipulata* Boivin)	**siris**	SIR	kalbage (Kan), pottugaka (Mal), nirusil, pilivagai (Tam), bandichinduga (Tel)	Z	400 (—)	25 (—)	Low	e	Moderate	—
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	alasua, halasu (Kan), pilavu (Mal), pila (Tam), panasa (Tel)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	—
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu (Kan), ainipilavu (Mal), ainipila, anjili (Tam)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	—
Canthium sp.	**balasu**	BAS	karemullu (Kan), nannul (Mal), navugu (Tam), nallabalusu (Tel)	Z	770 (—)	48 (—)	—	—	Moderate	—
Cassia marginata Roxb.	**vakai**	VAK	karun konnai (Tam)	Z	960 (—)	60 (—)	—	—	High	—
Cedrela toona Roxb.	**toon**	TOO	gandhagarige (Kan), chuvann gil (Mal), malavembu (Tam), galimanu (Tel)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	—

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Chloroxylon swietenia DC.	**satinwood**	SAT	muragalu (Kan), porasu (Tam), bilga, billu (Tel)	Y	960 (835-1 105)	60 (52-69)	Low	—	High	—
Chukrasia tabularis Adr. Juss.	**chickrassy**	CHI	urulu (Kan), malaveppu (Mal), madagirivembu (Tam)	Z	675 (480-815)	42 (30-51)	Low	c	Moderate	—
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	biti (Kan), veeti (Mal), itti (Tam), jittegi (Tel)	X	770 (640-880)	48 (40-55)	High	—	Moderate	—
Diospyros sp.	**ebony**	EBO	tupra (Kan), thumbi (Tam), tuki, tumiki (Tel)	Y	835 (655-1 105)	52 (41-69)	Low	—	Moderate	—
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	vella-gil (Mal & Tam)	Y	720 (595-800)	45 (37-50)	High	—	Moderate	—
Fagara budrunga Roxb. [Syn. *Zanthoxylum rhetsa* (Roxb.) DC.]	**mullilam**	MUL	muttilam (Tam), rhetsa (Tel)	Z	735 (690-815)	46 (43-51)	Moderate	—	Moderate	—
Gardenia sp.	**gardenia**	GAR	kambil (Tam)	Z	755 (690-835)	47 (43-52)	—	—	Moderate	—
Gmelina arborea Linn.	**gamari**	GAM	kumulu (Kan), kumilu, shivane (Mal), kumil (Tam), gummadi (Tel)	Y	515 (415-610)	32 (26-38)	High	—	Moderate	—
‡*Gyrocarpus jacquini* Gærtn. (Syn. *Gyrocarpus americanus* Jacq.)	**tanaku**	TAN	tanaku (Tel)	Z	305 (—)	19 (—)	—	—	Low	—
Heliopteles integrifolia Planch.	**kanju**	KAN	thapsi (Kan), aval (Mal), ayili (Tam)	Z	595 (480-655)	37 (30-41)	Low	b	Moderate	—
‡*Hymenodictyon excelsum* Wall.	**kuthan**	KUT	doddathoppe (Kan), vella-kadamba (Mal), paranjoti, sagapu (Tam)	Z	480 (400-545)	30 (25-34)	Low	c	Low	—
Kingiodendron pinnatum (Roxb.) Harms. (Syn. *Hardwickia pinnata* Roxb.)	**piney**	PIN	yennamara (Kan), chukkanna-payini (Mal), kolavu (Tam)	Y	635 (530-705)	39 (33-44)	High	c	Moderate	—
Lagerstræmia lanceolata Wall. (Syn. *Lagerstræmia microcarpa* Wight)	**benteak**	BEN	bendeku, nandi (Kan), venteak (Mal), bethekku, venthekku (Tam)	X	610 (480-705)	38 (30-44)	High	c	Moderate	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	geru (Kan), annakara, uthi (Mal), kalasan, odiyamaram (Tam), gumpini (Tel)	Y	575 (495-675)	36 (31-42)	Low	c	Moderate	—

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2) kg/m³	lb/ft³	Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Mitragyna parvifolia (Roxb.) Korth. (Syn. *Stephegyne parvifolia* Korth.)	kaim	KAI	kadamba, vimbusirakadambu (Mal), nedunarai, nirkadambai (Tam)	Y	655 (595-720)	41 (37-45)	Low	b	Moderate	—
Polyalthia sp.	**debdaru**	DEB	narelai (Mal), nedunarai (Tam)	Z	640 (450-850)	40 (28-53)	Low	—	Moderate	—
Pterocarpus santalinus Linn. f.	**red sanders**	RSA	rakthachandanam (Kan & Mal), chemmaram (Tam), yerra-sandanam (Tel)	Y	1 105 (900-1 265)	69 (56-79)	—	—	High	—
Samadera indica Gærtn.	**karimgotta**	KAG	nanuchundan, toruvattu (Tam)	Z	400 (—)	25 (—)	—	—	Low	—
Santalum album Linn.	**sandalwood**	SAN	chandanam (Mal & Tam)	X	915 (—)	57 (—)	—	—	Moderate	—
Tamarindus indica Linn.	**imli**	IML	hunse (Kan), puli (Tam), chintha (Tel)	X	915 (—)	57 (—)	—	—	Moderate	—
Tectona grandis Linn. f.	**teak**	TEA	saguvain, thega, thekinamra (Kan), thekku (Mal & Tam), teku (Tel)	X	690 (560-850)	43 (35-53)	High	c	Moderate	—
Wrightia tinctoria R. Br. / *Wrightia tomentosa* Roem. et Sch.	**dudhi**	DUD	kaduiti (Kan), palai (Tam) / tellapal (Tel)	Y	575 (—)	36 (—)	—	—	Low	—
7. VENEERS AND PLYWOOD										
Acrocarpus fraxinifolius Wight	**mundani**	MUN	belanji (Kan), kuranyan, malaveppu (Mal), malamkonnai (Tam)	Z	690 (465-800)	43 (29-50)	Low	c	Moderate	—
Adina cordifolia Hook. f.	**haldu**	HAL	yettaga (Kan), bimbu (Mal), kadambari, manjakadambai (Tam), bandaru (Tel)	X	705 (655-785)	44 (41-49)	Low	a	Moderate	—
‡*Ailanthus excelsa* Roxb. / *Ailanthus malabarica* DC.	**maharukh**	MAH	halmaddi, maddidhupa (Kan) / peenari, perumaram, pongiliyam (Mal), mattipal, pimaram (Tam), peddamanu (Tel)	Y	415 (335-480)	26 (21-30)	—	—	Low	—
Alstonia scholaris R. Br.	**chatian**	CHT	ezhilampala, mukampala (Mal), elalaipalai, mukkampalei, palegaruda (Tam)	Y	415 (350-465)	26 (22-29)	Low	—	Low	—

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Artocarpus heterophyllus Lamk. (Syn. *Artocarpus integrifolius* Auct.)	**kathal**	KAT	alasua, halasu (Kan), pilavu (Mal), pila (Tam), panasa (Tel)	Y	595 (415-735)	37 (26-46)	High	—	Moderate	—
Artocarpus hirsuta Lamk.	**aini**	AIN	hebbalasu (Kan), ainipilavu (Mal), ainipila, anjili (Tam)	Y	595 (400-755)	37 (25-47)	Low	—	Moderate	—
Calophyllum sp.	**poon**	POO	goja, salhonne, surahonne (Kan), punna (Mal), kathupinnai (Tam)	Y	655 (480-815)	41 (30-51)	Moderate	c	Moderate	—
Cedrela toona Roxb.	**toon**	TOO	gandhagarige (Kan), chuvannagil (Mal), malavembu (Tam), galimanu (Tel)	Y	515 (385-610)	32 (24-38)	Low	c	Moderate	—
Cullenia excelsa Wight	**karani**	KAR	mulluchakka (Mal), ainipila, vedipila (Tam)	Y	640 (560-720)	40 (35-45)	Low	b	Low	—
Dalbergia latifolia Roxb.	**rosewood (blackwood)**	ROS	biti (Kan), veeti (Mal), itti (Tam), jittegi (Tel)	X	770 (640-880)	48 (40-55)	High	—	Moderate	—
Dipterocarpus indicus Bedd.	**gurjan**	GUR	yennemara (Coorg), kalpayini, kalpine (Mal), enney, vellayini (Tam)	X	785 (705-900)	49 (44-56)	Moderate	b	Moderate	—
‡*Dysoxylum malabaricum* Bedd.	**white cedar**	WCE	vella-gil (Mal & Tam)	Y	720 (595-800)	45 (37-50)	High	—	Moderate	—
Fagara budrunga Roxb. [Syn. *Zanthoxylum rhetsa* (Roxb.) DC.]	**mullilam**	MUI	muttilam (Tam), rhetsa (Tel)	Z	735 (690-815)	46 (43-51)	Moderate	—	Moderate	—
Garuga pinnata Roxb.	**garuga**	GAU	godda, halabolagi (Kan), annakara (Mal), karuvembu (Tam)	Z	610 (465-690)	38 (29-43)	Low	e	Moderate	—
Grevillea robusta A. Cunn.	**silver oak**	SOA	—	Y	640 (—)	40 (—)	—	—	Moderate	—
Holoptelea integrifolia Planch.	**kanju**	KAN	thapsi (Kan), aval (Mal), ayili (Tam)	Z	595 (480-655)	37 (30-41)	Low	b	Moderate	—
Lagerstroemia lanceolata Wall. (Syn. *Lagerstroemia microcarpa* Wight)	**benteak**	BEN	bendeku, nandi (Kan), venteak (Mal), benthekku, venthekhu (Tam)	X	610 (480-705)	38 (30-44)	High	e	Moderate	—
Lannea coromandelica Merr. (Syn. *Lannea grandis* Eng.; *Odina wodier* Roxb.)	**jhingan**	JHI	geru (Kan), annakara, uthi (Mal), kalasan, odiyamaram (Tam), gumpini (Tel)	Y	575 (495-675)	36 (31-42)	Low	e	Moderate	—
‡*Lophopetalum wightianum* Arn.	**banati**	BAN	balpale (Kan), kaluka, venkatavu (Mal), vengottai (Tam)	Z	450 (385-495)	28 (24-31)	Low	—	Low	—

TABLE V CLASSIFICATION OF TIMBERS ACCORDING TO THEIR USES, SOUTH ZONE — *Contd*

Botanical Name	Standard Trade Name	Abbreviated Symbol	Local Names	Availability (*see* 4.1)	Average Weight and Range of Weights at 12 Percent Moisture Content (*see* 4.2)		Durability (*see* 4.3)	Treatability (*see* 4.4)	Refractoriness to Air Seasoning (*see* 4.5)	Comparative Strength Coefficient on the Basis of Teak as 100 (*see* 4.6)
					kg/m³	lb/ft³				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
‡*Machilus macrantha* Nees	**machilus**	MAC	gulamavo, gulmao (Kan), uravu (Mal), kolamavu, kolarmavu (Tam)	Y	530 (430-625)	33 (27-39)	High	—	Low	—
‡*Mangifera indica* Linn.	**mango**	MAN	mavu (Kan), mamaram (Tam), mamidi (Tel)	X	690 (610-800)	43 (38-50)	Low	a	Low	—
Michelia champaca Linn.	**champ**	CHM	sampige (Kan), chambegam, chempakam, shanbagam (Tam), champakam (Tel)	Z	495 (400-595)	31 (25-37)	Low	e	Moderate	—
Palaquium ellipticum (Dalz.) Engler (Syn. *Dichopsis elliptica* Benth.)	**pali**	PAL	hadasale (Kan), palvadinjan (Tam)	X	640 (495-770)	40 (31-48)	Moderate	e	Moderate	—
Pterygota alata R. Br. (Syn. *Sterculia alata* Roxb.)	**narikel**	NAR	anathondi, pothondi (Mal), anaithondi (Tam)	Z	560 (450-640)	35 (28-40)	—	—	Low	—
‡*Salmalia malabarica* Schott & Endl. (Syn. *Bombax malabaricum* DC.)	**semul**	SEM	ilavu, poola (Mal), ilavam (Tam), buruga (Tel)	Y	385 (255-530)	24 (16-33)	Low	a	Low	—
Syzygium sp. (Syn. *Eugenia* sp.)	**jaman**	JAM	nerlu, nerula (Kan), naval (Mal & Tam), neredu (Tel)	Y	850 (705-1 025)	53 (44-64)	Moderate	e	High	—
Tectona grandis Linn. f.	**teak**	TEA	saguvain, thega, thekinamra (Kan), theku (Mal & Tam), teku (Tel)	X	690 (560-850)	43 (35-53)	High	c	Moderate	—
Terminalia paniculata Roth	**kindal**	KIN	honagalu, honal, hunal (Kan), pillamarudu (Mal & Tam), nallapulaga (Tel)	X	800 (720-895)	50 (45-56)	Moderate	c	High	—
Terminalia tomentosa Wight et Arn.	**laurel**	LAU	banappu (Kan), karumarudu (Mal), karimarudu, matti (Tam), nallamaddi (Tel)	X	895 (770-995)	56 (48-62)	Moderate	b	High	—
Tetrameles nudiflora R. Br	**maina**	MAI	bolur (Kan), chini (Mal & Tam)	X	320 (—)	20 (—)	Low	a	Low	—
‡*Trewia nudiflora* Linn.	**gutel**	GUT	naikumpil, pamambarakumbil, thavala (Mal), kumbala (Tam)	Y	450 (—)	28 (—)	Low	—	Low	—
Vateria indica Linn.	**vellapine**	VEL	dhup, kaidhupa (Kan), payin, vellakunthirikam (Mal), vellaikundrikam, vellapayini (Tam)	X	595 (480-690)	37 (30-43)	Low	c	Low	—

INDEX OF BOTANICAL NAMES

The figures in brackets in second column indicate the number of times the corresponding botanical name appears on that page

INDEX OF STANDARD TRADE AND LOCAL NAMES

The figures in brackets in third column indicate the number of times the corresponding entry (botanical and trade or local name) appears on that page

Trade or Local Name	Botanical Name	Page
baru	*Schleichera oleosa* Oken	31
bathura	*Hymenodictyon excelsum* Wall.	12, 15
baurang	*Hymenodictyon excelsum* Wall.	12, 15, 26, 32, 34
bawai) bawal)	*Acacia arabica* Willd.	13, 49, 50
behra	*Chloroxylon swietenia* DC.	36, 38, 40
bejjal	*Anogeissus latifolia* Wall.	53, 63
belanji	*Acrocarpus fraxinifolius* Wight	53, 57, 61, 66
belkol	*Trewia nudiflora* Linn.	27, 35
bellati	*Albizzia procera* Benth.	43, 46, 51
benate	*Lophopetalum wightianum* Arn.	47, 52
bendeku	*Lagerstræmia lanceolata* Wall.	55, 58, 62, 65, 67
bendi	*Kydia calycina* Roxb.	60
benmeza	*Albizzia chinensis* (Osbeck) Merr.	28
benteak	*Lagerstræmia lanceolata* Wall.	44, 46, 49, 50, 52, 55, 58, 62, 65, 67
beo	*Pterocarpus marsupium* Roxb.	45, 47
ber	*Zizyphus mauritiana* Lamk.	40
bethekku	*Lagerstræmia lanceolata* Wall.	55, 58, 62, 65, 67
bhaira	*Terminalia bellirica* Roxb.	9, 13
bhanj	*Quercus incana* Roxb.	8, 11
bharkundi	*Hymenodictyon excelsum* Wall.	26, 32, 34
bhava	*Cassia fistula* Linn.	43
bhawarmal	*Hymenodictyon excelsum* Wall.	38, 41(2)
bhelu	*Tetrameles nudiflora* R. Br.	27, 35
bhendi	*Kydia calycina* Roxb.	38, 47
bhendi	*Thespesia populnea* Sol.	50
bheru	*Chloroxylon swietenia* DC.	23
bherul	*Chloroxylon swietenia* DC.	23
bhirra	*Chloroxylon swietenia* DC.	36, 38, 40
bhoga	*Hymenodictyon excelsum* Wall.	47, 52
bhojpatra	*Betula* sp.	10, 15
bhola	*Morus lævigata* Wall.	24, 29, 33
bhomora	*Terminalia bellirica* Roxb.	30
bhorsal	*Hymenodictyon excelsum* Wall.	38, 41(2), 47, 52
bhuj	*Betula* sp.	10, 15
bhurkal	*Hymenodictyon excelsum* Wall.	26, 32, 34
bhurker	*Hymenodictyon excelsum* Wall.	38, 41(2)
bhutali	*Elæocarpus tuberculatus* Roxb.	47
bibla	*Pterocarpus marsupium* Roxb.	45, 47
bija	*Pterocarpus marsupium* Roxb.	37, 38
bijasal	*Pterocarpus marsupium* Roxb.	21, 25, 37, 38, 45, 47, 56, 58
bilga	*Chloroxylon swietenia* DC.	54, 57, 63, 65
bilidevdari	*Dysoxylum malabaricum* Bedd.	46, 48, 50, 52
biligandhagiri	*Cedrela toona* Roxb.	44, 46, 48, 50
bilimaddi	*Terminalia arjuna* W & A.	56
bilkambi	*Albizzia odoratissima* Benth.	43, 45, 51
billa	*Sapium baccatum* Roxb.	27
billu	*Chloroxylon swietenia* DC.	44, 46, 50, 54, 57, 63, 65
bimbu	*Adina cordifolia* Hook. f.	53, 57, 61, 64, 66
birch	*Betula* sp.	10, 15, 23, 31
bitagoinr	*Kydia calycina* Roxb.	26
biti	*Dalbergia latifolia* Roxb.	44, 46, 49, 50, 51, 54, 58, 63, 65, 67
black chuglam	*Terminalia manii* King	22
black locust	*Robinia pseudacacia* Linn	14
blackwood	*See* **rosewood**	19, 23, 30, 32, 36, 38, 40(2), 41, 44, 46, 49, 50, 51, 54, 58, 63, 65, 67
blue gum	*Eucalyptus globulus* Labill.	54
boga amari	*Aphanamixis polystachya* (Wall.) Parker	23, 28
bogapoma	*Chukrasia tabularis* Adr. Juss.	19, 23, 32, 34
bogi	*Hymenodictyon excelsum* Wall.	47, 52
bogimar	*Hopea* sp.	55
bok	*Bischofia javanica* Blume	43, 48
bola	*Morus lævigata* Wall.	24, 29, 33
bolur	*Tetrameles nudiflora* R. Br.	60, 68
bondara	*Lagerstræmia speciosa* Pers.	44
bondaro	*Lagerstræmia parviflora* Roxb.	44, 46, 49(2)
bonsum	*Phœbe* sp.	24, 29, 35
borpat	*Ailanthus* sp.	26, 33
borsali	*Manilkara* sp.	44
brimji	*Celtis australis* Linn.	14
buk	*Quercus* sp.	21, 25
bullet-wood	*Manilkara* sp.	37, 44, 55, 63
bural	*Salmalia malabarica* Schott & Endl.	48, 52
buri-dhamero	*Lagerstræmia parviflora* Roxb.	20, 29, 31
buruga	*Salmalia malabarica* Schott & Endl.	60, 68
burza	*Betula* sp.	10, 15

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calimara	*Casuarina equisetifolia* Linn.	43
casuarina	*Casuarina equisetifolia* Linn.	19, 43, 54
celtis	*Celtis australis* Linn.	14
chadachi	*Grewia tiliæfolia* Vahl.	55, 63
chalan	*Populus* sp.	12, 17
challane	*Dipterocarpus indicus* Bedd.	44, 52
chalta	*Dillenia* sp.	20, 28, 34
chalun	*Populus* sp.	12, 17
cham	*Artocarpus chaplasha* Roxb.	19, 23, 28, 34
chambegam	*Michelia champaca* Linn.	58, 68
champ	*Michelia* sp.	24, 29, 35
champ	*Michelia champaca* Linn.	24, 58, 68
champa	*Michelia* sp.	24, 29, 35
champa	*Michelia champaca* Linn.	24
champaca	*Michelia champaca* Linn.	24
champak	*Michelia champaca* Linn.	24
champakam	*Michelia champaca* Linn.	58, 68
chandan	*Santalum album* Linn.	51
chandanam	*Santalum album* Linn.	66
channangi	*Lagerstræmia parviflora* Roxb.	44, 46, 49(2), 55, 58, 62, 63
chapalish) **chaplash**)	*Artocarpus chaplasha* Roxb.	19, 23, 28, 34
chatian	*Alstonia scholaris* R. Br.	12, 16, 26, 47, 51, 59, 66
chavuku	*Casuarina equisetifolia* Linn.	54
chelavagai	*Albizzia odoratissima* Benth.	53, 57
chemmaram	*Pterocarpus santalinus* Linn. f.	56, 59, 66
chempakam	*Michelia champaca* Linn.	58, 68
chenkurunchi	*Gluta travancorica* Bedd.	54, 58
chennelli	*Knema attenuata* Warb.	60, 62
chhal	*Anogeissus latifolia* Wall.	7, 14
chhatian	*Alstonia scholaris* R. Br.	26
chichola	*Albizzia lebbeck* Benth.	36, 37, 41, 43, 45, 51
chichwa	*Albizzia odoratissima* Benth.	36, 37, 41
chickrassy	*Chukrasia tabularis* Adr. Juss.	19, 23, 32, 34, 44, 46, 50, 51, 54, 57, 65
chil	*Pinus roxburghii* Sargent	7, 9, 11
chilauni	*Schima wallichii* Choisy	21, 35
chilbil	*Holoptelea integrifolia* Planch.	24, 26, 32, 34
chilla	*Strychnos potatorum* Linn. f.	64
chilwal	*Holoptelea integrifolia* Planch.	38(2), 40, 41
chinduga	*Albizzia odoratissima* Benth.	53, 57
chini	*Tetrameles nudiflora* R. Br.	60, 68
chintha	*Tamarindus indica* Linn.	56, 64, 66
chir	*Pinus roxburghii* Sargent	7, 9, 11
chirol	*Holoptelea integrifolia* Planch.	38(2), 40, 41

Trade or Local Name	Botanical Name	Page
kumil, kumilu, kumulu	*Gmelina arborea* Linn.	54, 58, 60, 62, 65
kumkar	*Holoptelea integrifolia* Planch.	10, 12, 15, 17
kungmung	*Alstonia scholaris* R. Br.	26
kunis	*Alnus nitida* Endl.	12, 16
kunthirikkapayin	*Canarium strictum* Roxb.	59
kurak	*Garuga pinnata* Roxb.	48, 52
kuranyan	*Acrocarpus fraxinifolius* Wight	53, 57, 61, 66
kurchi, kurdis	*Holarrhena antidysenterica* Wall.	32
kurmuru	*Albizzia odoratissima* Benth.	7, 10, 16
kursing	*Stereospermum* sp.	45, 47, 49
kuruma	*Adina cordifolia* Hook. f.	22, 28, 31, 33
kusum	*Schleichera oleosa* Oken.	9, 31, 37, 45, 49, 56, 63
kusuma	*Schleichera oleosa* Oken.	31
kusumb	*Schleichera oleosa* Oken.	45, 49
kuthan	*Hymenodictyon excelsum* Wall.	12, 15, 26, 32, 34, 38, 41, 42, 47, 52, 65
kutharia	*Polyalthia* sp.	24, 33

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lakooch	*Artocarpus lakoocha* Roxb.	23, 54
lalchini, lali	*Amoora wallichii* King	23, 26, 34
lal-devdari	*Chukrasia tabularis* Adr. Juss.	44, 46, 50, 51
lal-khair	*Acacia sundra* Willd.	43, 53
lambapatti	*Sideroxylon longepetiolatum* King et Prain	27, 33
lampati	*Duabanga sonneratioides* Ham.	26
latekh	*Aglaia* sp.	18
later	*Pterospermum acerifolium* Willd.	13, 16, 17
latikaram	*Hymenodictyon excelsum* Wall.	26, 32, 34
latore	*Artocarpus chaplasha* Roxb.	19, 23, 28, 34
laurel	*Terminalia tomentosa* Wight et Arn.	9, 11, 17, 22, 25, 31, 35, 37, 40, 42, 45, 47, 52, 56, 59, 64, 68
lelun	*Sapium baccatum* Roxb.	27
lendi	*Lagerstræmia parviflora* Roxb.	8, 11, 13, 14, 20, 29, 31, 36, 38, 39, 40, 44, 46, 49(2), 55, 58, 62, 63
lendia, lendia senha	*Lagerstræmia parviflora* Roxb.	36, 38, 39, 40
letkok	*Pterygota alata* R. Br.	27, 35
leuri	*Cupressus torulosa* Don	7, 9, 11
lochuni, loshune	*Aphanamixis polystachya* (Wall.) Parker	23, 28
losuni	*Dysoxylum binectariferum* (Roxb.) HK f. ex Bedd.	24, 29
lupung	*Terminalia bellirica* Roxb.	30

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machilus	*Machilus gamblei* King	27, 29, 33
machilus	*Machilus macrantha* Nees	47, 52, 60, 68
madagirivembu	*Chukrasia tabularis* Adr. Juss.	54, 57, 65
maddidhupa	*Vateria indica* Linn.	48, 52
maddidhupa	*Ailanthus excelsa* Roxb.	59, 66
madkam	*Madhuca indica* Gmel.	20
mahalimbo	*Cedrela toona* Roxb.	19, 23, 28, 32, 34
mahalo, mahanim	*Ailanthus* sp.	26, 33
maharukh	*Ailanthus excelsa* Roxb.	38, 41, 47, 51, 59, 66
maharukh	*Ailanthus malabarica* DC.	59, 66
mahogany	*Swietenia* sp.	25, 33, 59
mahua	*Madhuca* sp.	44, 55
mahua	*Madhuca indica* Gmel.	8, 20, 37
mahuda	*Madhuca* sp.	44
mahula	*Madhuca indica* Gmel.	20
maina	*Tetrameles nudiflora* R. Br.	27, 35, 48, 52, 60, 68
makai	*Shorea assamica* Dyer	21, 29, 35
makrisal	*Schima wallichii* Choisy	21, 35
malabar neem	*Melia composita* Willd.	60
malachadayan	*Bischofia javanica* Blume	54, 61
malagiri	*Cinnamomum* sp.	19, 23, 32
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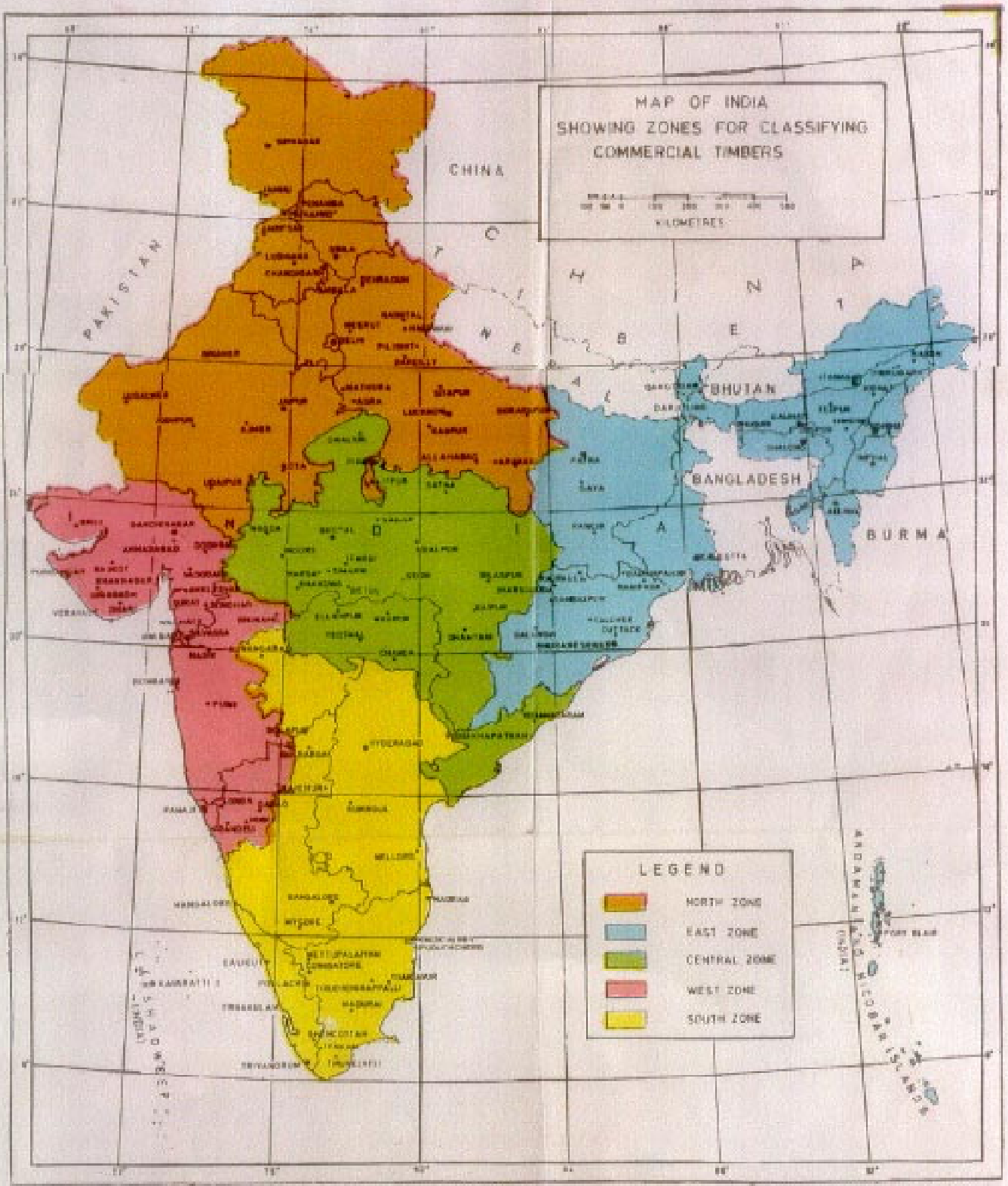
malavembu	*Cedrela toona* Roxb.	54, 57, 61, 64, 67
malaveppu	*Acrocarpus fraxinifolius* Wight	53, 57, 61, 66
malaveppu	*Chukrasia tabularis* Adr. Juss.	54, 57, 65
mallay vembu	*Melia composita* Willd.	60
mamaram, mamidi	*Mangifera indica* Linn.	55, 60, 62, 68
mandane	*Acrocarpus fraxinifolius* Wight	18, 22, 27, 33
mandar	*Acer* sp.	10, 15
mango	*Mangifera indica* Linn.	8, 11, 12, 13, 17, 24, 27, 29, 35, 38, 39(2), 42, 46, 47, 49, 52, 55, 60, 62, 68
manjakadambai	*Adina cordifolia* Hook. f.	53, 57, 61, 64, 66
maple	*Acer* sp.	10, 22, 31
maravari	*Antiaris toxicaria* Leschen.	59
mareen	*Ulmus wallichiana* Planch.	9
mashwal	*Chloroxylon swietenia* DC.	44, 46, 50
mashwel	*Acacia arabica* Willd.	43, 49, 50
matti	*Terminalia tomentosa* Wight et Arn.	45, 47, 52, 56, 59, 64, 68
mattipal	*Ailanthus malabarica* DC.	59, 66
mavu	*Mangifera indica* Linn.	46, 47, 49, 52, 55, 60, 62, 68
mayeng	*Pterospermum acerifolium* Willd.	13, 16, 17
mayiladi	*Vitex altissima* Linn. f.	56
mechi	*Lagerstræmia parviflora* Roxb.	20, 29, 31
mesua	*Mesua ferrea* Linn.	20, 55
milla	*Vitex altissima* Linn. f.	56
milla	*Vitex* sp.	45
mitukunia	*Mitragyna parvifolia* (Roxb.) Korth.	21, 24, 29, 33
modal	*Lannea coromandelica* Merr.	44, 47, 50, 52
modhal	*Lannea coromandelica* Merr.	44, 47, 50, 52
mohru	*Quercus floribunda* Wall.	8, 11
mohwa	*Madhuca indica* Gmel.	20, 37
mohwa	*Madhuca* sp.	44
moi	*Lannea coromandelica* Merr.	20, 27, 32, 35
moina	*Tetrameles nudiflora* R. Br.	27, 35
mokha	*Schrebera swietenioides* Roxb.	41
momailateku	*Aglaia* sp.	18
monia	*Lannea coromandelica* Merr.	44, 47, 50, 52
morai	*Fagara budrunga* Roxb.	24, 32, 34
morinda	*Abies pindrow* Royle, *Abies spectabilis* Spach.	7, 9, 11
moru	*Quercus floribunda* Wall.	8, 11
moyal	*Lannea coromandelica* Merr.	36, 39, 41, 42
moyee	*Lannea coromandelica* Merr.	44, 47, 50, 52
moyen	*Lannea coromandelica* Merr.	8, 12, 15, 17, 36(2), 39(2), 41(2), 42(2)



Based upon Survey of India map with the permission of the Surveyor General of India.

The boundary of Meghalaya shown on this map is as interpreted from the North-Eastern Areas (Reorganisation) Act, 1971, but has yet to be verified.

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

Responsibility for the correctness of internal details shown on the maps rests with the publisher.

AMENDMENT NO. 1 JANUARY 1969

TO

IS:399-1963 CLASSIFICATION OF COMMERCIAL TIMBERS AND THEIR ZONAL DISTRIBUTION

(Revised)

Consequent upon revision of IS:1150-1957 Abbreviated Symbols for Timber Species, the Sectional Committee responsible for the preparation of this standard felt that corresponding changes would become necessary in this standard also. This amendment is, therefore, being issued to incorporate all those changes.

Corrigenda

(Pages 7,10,11, col 3) — Substitute 'KAL' for 'KAI' wherever it appears on these pages.

(Page 46, col 3)— Substitute 'KAI' for 'KAN'.

(Pages 8, 11, 13, 16, 21, 24, 29, 33, 38, 41, 51, 58, 66, col 3)— Substitute 'KAI' for 'KAM' wherever it appears on these pages.

(Page 26, col 3)— Substitute 'KAM' for 'KAB'.

(Pages 28,30 col 3)— Substitute 'KAC' for 'KAN' wherever it appears on these pages.

(Pages 10, 12, 15, 17, 24, 26, 32, 34, 38, 40, 42, 60, 65, 67, col 3)— Substitute 'KAN' for 'KAJ' wherever it appears on these pages.

(Page 19, col 3)— Substitute 'KAA' for 'KAR'.

(Pages 54, 59, 67, col 3)— Substitute 'KAR' for 'KAA' wherever it appears on these pages.

(Pages 21, 25, col 3)— Substitute 'PAA' for 'PAD' wherever it appears on these pages

(Pages 9, 11, 13, 21, 30, 37, 45, 47, 49, 56, 59, 62, col 3)—Substitute 'PAD' for 'PAR' wherever it appears on these pages.

(Pages 14, 16, col 3)— Substitute 'PAR' for 'PAO'.

(Pages 8, 19, 36, 43)
a) Col 2 — Substitute 'amaltas' for 'rajbrikh',
b) Col 3 — Substitute 'AMT' for 'RAJ',
wherever they appear on these pages.

cont.....page 2

(Pages 19, 23, 32)
a) Col 2 — Substitute ''chestnut' for'Indian chestnut',
b) Col 3 — Substitute 'CHE' for ICH',
wherever they appear on these pages.

(ages 27, 35)
a) Col 2 — Substitute 'didu' for 'semul',
b) Col 3 — Substitute 'DID' for 'SEM',
wherever they appear on these pages.

(Pages 22, 26)
a) Col 2 — Substitute 'hemlock' for'Indian hemlock',
b) Col 3 — Substitute 'HEM' for'IHE',
wherever they appear on these pages.

(Pages 14,16)
a) Col 2 —Substitute 'olive' for 'Indian olive',
b) Col 3 — Substitute 'OLI' for'IOL',
wherever they appear on these pages.

(Pages 7, 14, 19, 30, 36, 39, 43, 49, 53, 63, col 2)— Add '(bakli)' after 'axlewood'.

(Page 25, col 2)— Add '(dhupi)' after 'suji'.

(BDC 9)